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ANNUAL REPORT

OF THE

SUPERVISING SURGEON-GENERAL

OF THE

MARINE-HOSPITAL SERVICE OF THE UNITED STATES

FOR THE

FISCAL YEAR 1893.

IN TWO VOLUMES.
VOLUME I.

WASHINGTON:
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UNITED STATES MARINE-HOSPITAL SERVICE.

1893.

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REPORT TO THE SECRETARY.

TREASURY DEPARTMENT,
OFFICE SUPERVISING SURGEON-GENERAL M. H. S.,
November 30, 1893.

SIR: I have the honor to submit the following report of the operations of the Marine-Hospital Service for the fiscal year ended June 30, 1893, this being the ninety-fifth year of the Service and the twenty-second annual report.[1] In addition to the statistical portion of the report, which terminates with the fiscal year, various transactions of the Service to the present date are included.

Respectfully, yours,

WALTER WYMAN,
Supervising Surgeon-General U. S. Marine-Hospital Service.

The SECRETARY OF THE TREASURY.

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[1] Previous enumeration of reports and "year of service" herewith corrected. See Annual Reports 1882 and 1883, and Annual Reports 1887 and 1888.

REPORT OF THE SUPERVISING SURGEON-GENERAL OF THE MARINE-HOSPITAL SERVICE.

MEDICAL CORPS.

During the fiscal year 1893 two boards were convened for the examination of applicants for admission into the medical corps. The number of applicants was 50. Of the 35 who presented themselves for examination 3 received the required grade mark of 80 per cent.

APPOINTMENTS AND PROMOTIONS.

During the year six successful candidates were appointed to the grade of assistant surgeon, and five assistant surgeons were promoted, after examination, to the grade of passed assistant surgeon. One assistant surgeon was appointed in accordance with an act of Congress approved March 1, 1893.

RESIGNATION.

The resignation of one assistant surgeon was accepted June 30, 1893.

CASUALTIES.

Death from yellow fever of Assistant Surg. John W. Branham.—On August 20, 1893, Assistant Surg. John W. Branham died of yellow fever in Brunswick, Ga., where he had but recently been assigned to duty under the provisions of the act of February 15, 1893, to execute the quarantine regulations promulgated by the Secretary of the Treasury. A detailed statement of the circumstances under which Dr. Branham was sent to Brunswick, his service and death at that station, and biographical sketch will be found on pages 11, 12, and 58 of Vol. II of this report.

Dr. Spencer C. Devan, passed assistant surgeon U. S. Marine-Hospital Service, died at Philadelphia, Pa., February 3, 1893, of tuberculosis of the lungs, contracted in the line of duty.

Dr. Devan was born March 18, 1856, in the city of New York, and afterwards moved to New Brunswick, N. J., where he received an academic education, and entered Rutger's College in his fourteenth year, but on account of his mother's health he soon left the college to accompany her to Florida. Later he studied medicine and was graduated from the medical department of the University of New York in

June, 1879. He served as intern in the Charity Hospital, New York, for more than a year, and then located in Kansas City, Mo., where he practiced his profession until October, 1881, when, after passing a competitive examination before a board of marine-hospital surgeons, in which he was fourth in a class of eight successful candidates, he was appointed an assistant surgeon and assigned to duty in San Francisco. In the summers of 1882 and 1883 he was detailed as medical officer of the revenue cutter *Corwin* during her cruise in Alaskan waters. Other stations were Portland, Oreg.; Port Townsend, Wash.; St. Louis, Mo.; South Atlantic Quarantine, Savannah, Ga.; Washington, D. C.; Buffalo, N. Y.; Portland, Me.; Norfolk, Va.; Delaware Breakwater Quarantine, and Philadelphia. While on duty at Norfolk Dr. Devan first gave evidence of tubercular infection, which steadily progressed during the period of his service as medical officer in command of the Delaware Breakwater Quarantine, and while on special duty in Philadelphia, until January 7, less than a month before his death, being no longer able to perform his duties, he applied for and was granted sixty days leave.

As a friend Dr. Devan was genial and sincere; as an officer he was able, energetic, and devoted to his duty.

On September 9, 1893, the Marine Hospital at Port Townsend was destroyed by fire without the loss of life. The building was of little value, and will be replaced by a new one, for which appropriation was made by the last Congress, and for which plans have been prepared.

Destruction of Chandeleur Island.—On October 1 a violent hurricane visited the gulf quarantine station, located on Chandeleur Island in the Gulf of Mexico, and on the following day the hospital ward was completely destroyed and swept out to sea. Five persons connected with the station lost their lives, namely: Steward L. A. Duckert, a nurse, a boatman, and two patients. A full account of the storm will be found in the portion of this report relating to the quarantine stations. The quarantine was immediately transferred to Ship Island, and some Congressional action is required to legalize the establishment of a permanent station on that island, its removal from Ship Island to Chandeleur Island having been directed by special act of Congress.

MARINE HOSPITALS AND RELIEF FURNISHED.

During the year ended June 30, 1893, the total number of patients treated in the service was 53,317, of which number 14,857 were treated in hospital, the remainder, 38,460, being office or dispensary patients.

The following is a statement of the repairs and alterations made during the past fiscal year and those still needed at the several hospitals:

Hospital at Baltimore, Md. (erected 1887).—Surg. G. W. Stoner reports the following repairs made at this hospital:

> Repairs of minor character only have been made on the buildings and grounds during the past fiscal year, viz: recovering and repairing steam pipes, repairs to fences, stable floors, and to plumbing. This work was performed by the attendants; the cost of material used did not exceed $135.

The following described repairs will be necessary during the fiscal year ending June 30, 1894:

Resetting and painting brick piers supporting the wards; the chimneys need to be recrowned. The estimated cost of this mason work will be $200. The interior of wards, portions of executive building, and laundry require repainting, at a probable cost of $500. The well which supplies the drinking water is in bad condition and needs cleaning out and walling up with stone or hard brick, at a probable cost of $100. Minor repairs will be necessary from time to time upon fences, slate roofs, doors, and steps. Proposals are now being invited to make repairs to bath tubs and water-closets of the surgeon's residence.

Hospital at Boston, Mass. (*erected 1860*).—Surg. H. W. Sawtelle makes the following statement of repairs and alterations:

Slight repairs to the slate and tin roofs, at a cost of $50. Three new radiators put in—two in the quarters of the assistant surgeon and one in the Wild ward—costing $287.

The old iron smokestack, which was worn out, was taken down and a new one erected, at a cost of $1,000.

The following repairs have been made to the plumbing in lavatory on the fourth floor: Two new washbowls, two urinals with slate stalls, and one new water-closet, the old hot and cold water pipes replaced with brass pipe. Proper ventilation has been provided by carrying the main soil pipe of the hospital through the roof, and by extending the 3-inch soil pipe which receives the waste from lavatories on the first, second, and third floors to the fourth floor, and ventilating same by connecting it to the main soil pipe on the fourth floor. The old floor in this lavatory has been taken up and a new hard-pine floor laid, at a total cost of $306.

One of the ventilators on the roof, which was blown down during a storm, was repaired and replaced, at a cost of $20.

The following work has been performed by hospital attendants, viz: Five wards, smoking rooms on second floor, hospital dining room, steward's dining room, cupola, tin coverings on roof and balconies, halls on four floors, and the quarters of the passed assistant surgeon repainted. All the doors in the four halls and the baseboards have been grained in light oak and varnished, as also the woodwork in the dispensary and the hospital dining room.

The following general repairs have been made: Two entries in basement, one to surgeon's kitchen, the other to subsistence storerooms, repaired, and drains to sewer lowered. A section of the copper conductor in entry to surgeon's kitchen in basement, which was worn out, replaced with 4-inch cast-iron soil pipes. The fire pit in old boiler room filled up and repaired. Rotten flooring in wood room in basement of surgeon's quarters removed; water-closet put in, with tank, etc., complete; gas pipe extended to closet and small room containing same refloored, wainscoted, and painted. All the 254 windows of the hospital building have been reputtied and reglazed where needed. Minor repairs have been made to heating apparatus, valves repacked, and hot-air registers repaired. Specifications for miscellaneous repairs to the building, including oiling and painting of exterior, new ward and hall flooring, wire fences, repairs to coal shed, brick walk, and driveways have been prepared by the Supervising Architect, and proposals for this work have been received under advertisement and forwarded to the Department, the amount of lowest bid being $4,987.

The following is a statement of alterations and repairs required at hospital during the fiscal year ending June 30, 1894, with estimated cost:

New flooring for two of the outbuildings, the ironing room and basement of surgeon's quarters; cost, $175. The first hall floor should be replaced by encaustic tiling or marble; cost, $650. The woodwork in laundry is dilapidated and should be renewed, walls replastered; cost, $150. The old wire fence at the north end of the reservation is unserviceable and should be replaced by a high board fence; cost, $350. A new stable is urgently needed. Plans for this and a new autopsy room have been prepared by the Surpervising Architect, and advertisement for proposals has been made, but owing to an insufficiency of the appropriation available all of the bids received were rejected. A strip of land 43 feet wide on Broadway and extending to the marine hospital reservation, belonging to the naval hospital, having been formally transferred to the Treasury Department for the purpose of constructing a roadway directly from Broadway to the hospital; plans, specifications, and construction estimated at $3,500. An elevator is much needed; cost, $1,000.

Hospital at Cairo, Ill. (*erected 1885*).—Passed Assistant Surg. A. H. Glennan reports the following repairs and alterations made upon the building and grounds during the past fiscal year:

Proposal for the following repairs and alterations, amounting to $7,374, was accepted by letter of the Supervising Architect of June 24, 1893, and the work is now in a fair state of progress: Replacing old steps leading to surgeon's residence, executive and laundry buildings, and wards by new ones; replacing old, defective ventilators by new ones; placing support under ceiling of boiler room, constructing new galvanized iron ceiling for boiler room; putting water-closets in executive and laundry buildings (new stationary washstand in the latter), also one porcelain-lined bath tub in surgeon's residence; general painting of exterior and interior of buildings; reshingling wards, corridors, and verandas; filling old cesspool and cistern.

Repairs to heating apparatus have been made at a cost of $295. No repairs or alterations will be necessary during the fiscal year ending June 30, 1894, except such minor incidental and unavoidable repairs which can not be specified previously.

Hospital at Chicago, Ill. (*erected, 1873.*)—Surg. John B. Hamilton reports the following repairs and improvements made during the past fiscal year:

The driveway on the north end of building was improved by resurfacing with crushed stone, at an expense of $100. The wards were painted and the attendants' rooms in the fourth story and halls in the basement were kalsomined, at a cost of $360. Two sets of hard-coal grate bars were put in the furnace, at a cost of $212. Minor repairs have been made to the plumbing, windows, and roof.

There is also made the following report of repairs and alterations, which will be necessary during the fiscal year ending June 30, 1894:

The furnaces are in need of minor repairs, and a few new valves will be needed, the estimated cost of which will be $150.

The following items are contained in a specification prepared by the superintendent of repairs; advertisements for proposals to do the work are now being made: Surgeon's quarters are to be repainted throughout; also all the wards, and the surgical operating room. The floor of the Miller ward is to be renewed, the old plumbing removed, and new water closets and lavatory furnished. All bathrooms are to be refloored with tile and wainscoting repainted with porcelain paint. The basement hall floors, now rotten, are to be replaced with artificial stone or cement. The coal shed is to be reshingled, and floor and doors renewed. A new surface drain is to be constructed to carry the surface water away, to prevent flooding the engine room. The stonework of the hospital building and brickwork of engine house and smokestack are to be repainted. A new flagstaff 110 feet high is to be erected east of the building, and the rotten flag-staff on the building removed. Two new sinks are to be furnished in the kitchen. The estimated cost of this work is $8,000.

A new operating room planned according to modern surgical ideas should be built. The room now used for such purpose is not only unsuitable, but needed for other uses. There is no reception room in this hospital where patients can see their friends. The operating room, if built of stone to correspond with the outside of the building, would cost $10,000 complete.

I respectfully renew my recommendation for the building suitable for the residence for the commanding officer. The quarters are at present insufficient in case the full complement of officers were serving at this station, and there is not sufficient room for the families of three officers. The estimate of cost of such a building can best be furnished from the Architect's office, and would vary according to the plan adopted. To make it sightly and to correspond with the main building, it should have a stone facing, at least. This could correspond with the private houses in the vicinity. The local building stone is not very expensive.

An electric-light plant would be very desirable, giving better light and more security against fire, the estimated cost of which will not exceed $3,000.

The fence about the grounds are falling down and should be replaced by a low brick wall, at an estimated cost of $4,000.

The sidewalk in front of the reservation is out of repair, and only careful attention keeps it from being dangerous. It is an old wooden sidewalk.

The street in front of the reservation is the only unpaved street in the vicinity. The city has macadamized one-half of the street, but the side next the hospital remains in its natural state, a constant eyesore and annoyance and a cause of much unpleasant comment on part of people passing by the institution and those living in the neighborhood.

Hospital at Cincinnati (*erected 1884*).—Passed Assistant Surg. P. C. Kalloch reports the following alterations and repairs made during the fiscal year ending June 30, 1893:

A new sidewalk has been laid on Third street at a cost of $349.30; repairs to plumbing, closets, etc., to the amount of $144.14; repairs to roofs and gutters, $79.84. The other repairs are of a minor nature, at a total cost of $76.

The following repairs will be necessary, and are given in detail, with their estimated cost:

Repairing stairway in central building, $50; repairing old wall and moving bathroom in steward's quarters, $250; new window frames and sash, main building, $45; new lattice between main building and stable, $55; new outside stairway to front entrance surgeon's quarters, $35; painting roofs of all the buildings except office, $226; painting brickwork of wards, $138; relaying brick walk to front gate, $140; new entrance through front wall, gate, and walk, $55; repairs to laundry, $645; replacing small office on corner, with building for office and attendants' quarters, $2,450; new 3-inch water meter, with connections to mains, $240; two fire plugs and new piping to building, $325; two new windows in laundry, three circular slat windows in roof of stable, $40; ventilating windows in cellar of surgeon's quarters, $45.

Hospital at Detroit, Mich. (*erected 1857*).—Surg. W. H. H. Hutton makes the following reports of repairs made to this hospital in the past fiscal year:

Minor repairs costing $209.38 have been made on this hospital during the past fiscal year, of which $155 was for paints and oils; the painting has been done by the hospital attendants.

The buildings and grounds are in fair condition; the ceilings, walls, and woodwork of the third floor, as well as the wards on the second floor, need painting, which can be done with the material on hand, and a further allowance of about $200. To put this hospital in good sanitary condition it is advisable to provide means for ventilation and to refit the bathrooms and water-closets with better floors, walls, and apparatus. At present there is no means of ventilation, except the doors and windows. The building is warmed by steam radiators, and there is no way by which fresh air can be admitted, except in the manner stated. The construction of this building is such that I can see no way to improve the ventilation, except by the construction of a steam chamber in the basement through which fresh air can be forced by a rotary blower or fan, and the warmed air distributed through the old hot-air flues that remain from the former mode of heating the building by furnaces. The exit of the foul air can best be provided for by making large regulating openings into the chimneys, of which each ward has two and each room one, and constructing a large air shaft from the center of the main hall through the roof, with a large suction funnel, such as is used in the ventilation of steamship compartments. The probable cost is estimated at $2,000 to $2,500, and is thought absolutely necessary to bring the sanatary condition of this hospital anyway near the modern ideas of hospital ventilation.

In regard to the water-closets, the floors and walls are made of gray, unpolished marble, badly fitted, which absorbs urine, and is hard to keep reasonably clean. Floors and the wall to the height of 3 feet should be replaced with glazed tiling laid in pure cement.

The bowls and slop sinks are old, and should be replaced with new apparatus of the best quality. Most of the bath tubs are old and of an obsolete style; they should be replaced by porelain-lined tubs, set on feet. With the foregoing improvements only minor repairs will be necessary for the coming fiscal year.

Hospital at Evansville, Ind. (*erected 1891*).—Assistant Surg. Seaton Norman makes the following report of repairs and alterations made during the fiscal year ending June 30, 1893:

One double-chamber, No. 7, Bowden filter, set up as per contract, $375; material and labor to connect down pipe with sewer, $443.50; material and labor to construct steps leading to tank house, $25; material and labor for plank sidewalk, $170; material and labor to construct partitions and shelving for storerooms, $247; material and labor to construct chimney in stable and placing stoves in dead room, $62.50; furnishing material and labor for constructing 800 lineal feet of brick, in accordance with contract, $523; minor miscellaneous repairs, $72.65; total, $1,921.65.

The following repairs and additions are reported necessary for the coming fiscal year:

The exteriors of all the buildings, especially the executive building and the surgeon's residence, have faded to a great extent, and will need a double coating of paint. The interior of all the buildings show a good state of preservation, except the surgeon's residence, which I would recommend to be painted. Estimated cost, $2,000.

An artificial stone sidewalk should be constructed from the main entrance to the executive building, around the flagstaff, and to the officers' quarters. The roadways are made of broken rock, and are too rough for pedestrians. Estimated cost, $375.

The erection of a stone retaining wall along the northern boundary of the reservation is absolutely required to preserve the washing away of that portion of the grounds. The fence stands just on the border where the wall should be constructed, and the laundry building is situated within 2 feet of the receding earth. The fence is already undermined, and there is nothing to retard the gradual but continuous excavation produced by the heavy rains. Estimated cost, $10,000. Minor repairs are estimated at $25.

Hospital at Louisville, Ky. (*erected 1852.*)—Acting Assistant Surg. W. M. Griffiths, in temporary charge at the time that the report of condition of this hospital and the repairs necessary thereon was called for, makes the following report:

Minor repairs to kitchen range, plumbing, new sinks, and repair to chimney only have been made during the past fiscal year, at the small cost of $88.22.

The following estimate is submitted for work considered absolutely necessary during the present fiscal year:

The hospital building has been in use for a period exceeding forty years, and in view of modern improvements is not considered well adapted for the care of patients, At certain seasons it is overcrowded and does not afford suitable accommodations for patients or officers and necessary attendants.

Quarters for the medical officers should be erected independent of the hospital building; a separate building should be erected for the laundry, in which also the dead room, storerooms, and quarters for attendants could be provided; the stable and carriage house now in use are scarcely worth repairing and are too small for the requirements of the service at this port. The building is heated by means of stoves and grates, involving much labor and giving indifferent results.

No expenditure has ever been made on the walks and approaches to the hospital. In order to keep in line with the improvements in this part of the city the walks should be graded, curbing set, and proper pavements laid. A new and improved range should be provided for the hospital kitchen, and walks should be made leading to outbuildings and back gate.

The following are the estimated amounts required to make the improvements above recommended:

Quarters for medical officer, $6,500; laundry building, storerooms, and attendants' quarters, $5,000; stable and carriage house, $4,000; low-pressure heating apparatus, including hot-water boiler and connections, $4,500; approaches and sidewalk, $2,500; range and laundry plant, $2,500; sidewalk on grounds, $750; total, $28,250.

Hospital at Key West, Fla. (*erected 1840*).—Assistant Surg. J. M. Eager, in temporary charge at the time the report of the condition of this hospital and the repairs necessary thereon was called for, makes the following report:

On January 18, 1893, the new isolation ward and the new wharf with storehouse, boat and bathhouse, and water-closets were completed; the cost of the same was $2,750.

Extensive repairs and alterations are at present in progress, the work being done by W. A. Johnson & Bro. These miscellaneous repairs include an additional story to the old laundry building, moving the said laundry to a new position, and placing the same in a general condition of good repair. General repairs have been made to the main building, such as repairs to stairs, floors, corridors, blinds, windows, doors, etc.

In addition to the work already finished and that contracted for, the following work is manifestly necessary during the fiscal year ending June 30, 1894:

Stone wall.—The masonry of the breakwater on the south side of the hospital inclosure contains a break 28 by 36 by 36 feet in dimensions. The concrete pavement of the sea wall on the same side is in need of repairs over an area 5 feet wide by 80 feet long; estimated cost, $300.

Fence.—The wooden fence inclosing the hospital grounds is in a very dilapidated condition; the entire fence, including gates, should be replaced; the estimated cost, including painting, is made at $450. Minor repairs are necessary on cistern, dead house, and wood house, as well as small repairs to plumbing apparatus.

It will also be necessary to make an expenditure for painting, at a cost of about $300.

Hospital at Memphis, Tenn. (*erected 1886*).—Passed Assistant Surg. A. C. Smith reports the following alterations and repairs made to this building and grounds during the fiscal year ending June 30, 1893.

These repairs consisted for the most part of small items and aggregated $249.94. Repairs at slight cost have been made to the heater in surgeon's quarters, and the range, boiler, and water-back in hospital kitchen have been replaced.

I have the honor to report that the following repairs are necessary: Repainting the exteriors of all the buildings, including the metal roofs, the fences, and flagstaff. It is also necessary that the interior of the buildings should be painted. Preliminary to this painting, minor repairs, requiring but a small expenditure, will be necessary on the building. The basement floors in the dining room, larder, and kitchen of the surgeon's quarters are decayed and should be relaid. The water-closets are old and worn out, and should be replaced with new ones. The same may be said of the bath tubs. The water supply of the hospital is not sufficient for protection in case of fire, the pressure being 25 pounds. The 2-inch pipe supplying the reservation is not taken from the nearest mains of the water company. Hydrants should be placed in the grounds of larger size.

I have omitted from the foregoing report the subject of heating apparatus for the buildings, upon which reports have been made.

Hospital at Mobile, Ala. (*erected 1843*).—Surg. C. S. D. Fessenden makes the following statement of repairs and alterations for the past fiscal year:

I have the honor to state that only minor repairs have been made at this hospital. The hospital kitchen range had a new water-back and hot-water boiler, with new pipes, at a cost of $25. The plastering was repaired in several places at a cost of $25. The large water tanks at the top of the building were repaired by having new pipes and connections put in at a cost of $9.50. A new hoisting apparatus was put in on the top floor at a cost of $12. New bath tubs for patients were put in at a cost of $157. The total cost of same was $228.

The repairs that are necessary for the ensuing fiscal year are as follows:

The fireplaces need putting in order for the coming winter; plastering needs repairs and repainting in very many places; the floors in the basement need new sleepers, and should be relaid; the main halls of the building need repair, painting, etc. A new water pipe from the stable to the garden is needed for watering the latter, as now all the water is carried by hand. The total estimated cost of these repairs is $880.

Hospital at New Orleans, La. (*erected 1885*).—Surg. James M. Gassaway reports the following repairs and alterations made during the past fiscal year:

The new or center ward authorized by act of Congress, for which contract was made December 28, 1891, was completed and formally accepted by the Department December 8, 1892. In addition to the original plan the structure was still further improved by setting the building 50 feet north of the original position first designed, thus adding greatly to its air space and to that of the two existing wards. Electric wiring was placed throughout, and such changes in the woodwork as experience has taught to be necessary in this climate. The amount appropriated for this ward was $10,000. The entire station, with the exception of the surgeon's quarters, stable, laundry, and storerooms, have been painted on the outside, and the wards, executive offices, hallways, and attendants' quarters painted on the inside. The wooden fence and iron railing, about 2,000 linear feet, have received one coat of paint or asphalt, and all the ironwork, including steam pipes and traps, boilers and water piping, have also been painted. This work has been done by a painter, employed 123 days, at $2.50 per diem, and by the steward and attendants, at a total cost, including material and trusses, of $502.20.

Many small miscellaneous repairs have been made to the woodwork of the buildings. Footways and bridges have been made from refused material left by former contractors, or from material secured from broken up or abandoned coal barges left on the batture. This work was done by a carpenter, working 120 days, at $2 per day, and the attendants; total cost estimated at $360. The roadways connecting the public street with the hospital buildings were repaired by 1,000 barrels of shells, at an expense of $190.

A substantial, well-tarred plank walk, 1,180 feet long by 3 feet 2 inches wide, was laid on the river front of the reservation, making a good sidewalk, at a cost of $298.

A porch was added to the passed assistant surgeon's quarters, doorways cut in the quarters, and also in those of the surgeon; the stable has been repaired; new roof put on the boiler house and the house otherwise repaired. A new and solid foundation for the boiler feed pump, and repairs to the foundations of the sewer and water pumps, and repairs to the supports of main water tanks have been made. Improved arrangement has been made in the hot-water supply to the different buildings. The total expenditures, excluding the cost of new ward, was $13,169.

It is recommended that a new laundry building, with modern steam appliances, be constructed, to replace the antiquated methods still in vogue at this station. This building should also contain quarters for the attendants and storerooms, these now occupying, with the laundry, a number of dilapidated negro quarters of antebellum days. Estimated cost, $6,300.

An appropriation of $3,000 has been made to improve the water supply and increase the water pressure for protection against fire; work will probably be commenced soon.

A new boiler of 20 horse power should replace the one now in use, which is patched and becoming unsafe.

A gateway for vehicles and foot passengers should be cut through the east and one through the west walls, with a driveway of 18 feet. The brick pavement or sidewalk on three sides of the reservation should be taken up and relaid in cement, to prevent the growth of weeds and grass.

Should a new laundry not be built, it will be necessary to put new roofs (shingles) on the cabins. Repairs will be necessary on the stable, and a new cesspool should be placed beside the present one, which is not large enough to hold one day's sewage.

The surgeon's quarters should have the rear building raised to two stories and a back stairway added. The second-story gallery, contemplated by the original plan, should be completed.

The passed assistant surgeon's quarters should be raised about 8 feet, and the kitchen and laundry placed in the basement. The second-floor gallery, contemplated by the original plan, should be completed. In this semitropical climate these alterations would add to the health and comfort of the officer and his family.

Hospital at Portland, Me. (*erected 1859*).—Passed Assistant Surg. C. E. Banks reports the following repairs to this hospital during the past fiscal year:

Steam pump, $470; plumbing repairs, $35; supply tank, $150; new hard-wood floors in two wards, and convalescent patients' room, windows, casings, and stool caps repaired throughout, new front door, $586.75; lazaretto, ice house, and certain rooms painted by attendants, cost of paint, $80.40; radiators, with fittings, $32.40; repairing horse stalls, $14.50.

The building is in a good state of repair, and only emergency repairs are anticipated, as occasion arises, for the fiscal year ending June 30, 1894.

The station should have a laundry plant, steam power, to replace the old hand apparatus of ancient date. Estimated cost about $1,000.

Hospital at Port Townsend, Wash. (*established 1883*).—By reason of a fire this hospital was, on September 9, 1893, rendered untenable and useless. The hospital was composed of old frame buildings, badly constructed, and in a decayed condition. The fire is thought to have originated from a defective flue between the ceiling and roof. The patients were all taken out without injury, and the records and most of the furniture saved. The actual loss sustained probably did not exceed $2,000. An act of Congress approved March 3, 1893, makes an appropriation of $30,000 for the erection of a hospital at Port

Townsend, Wash. The plans are now being prepared in the office of the Supervising Architect.

Hospital at San Francisco, Cal. (erected 1875).—Surg. John Godfrey reports the following repairs, together with the cost thereof, made at this station for the fiscal year ending June 30, 1893:

Rebuilding the chimney tops of the wards and executive buildings and renewing the chimney pipes for the Jackson ward heater; cost, $340.70. Concreting two cellar floors and a walk; cost, $249. New pipes were laid to conduct water from the tanks to buildings at a cost of $552.30 for material, the labor being performed by attendants. A new fence was constructed at a cost of $156, and a flagstaff at $300. New telephone posts were planted at a cost of $42. Material and repairs made to the electric-bell system at a cost of $49.60. Minor repairs to roof, plumbing, vapor engine, hydrants, ward outbuildings, and roads were made by the attendants.

The following is a report of repairs, etc., necessary for the preservation and proper maintenance of the hospital at this station of the ensuing fiscal year ending June 30, 1894:

The hospital buildings, officers quarters, tanks, and flagstaffs need painting. The quarters for officers, stewards, and attendants are inadequate; quarters for attendants have never been erected at this station, consequently they have to be quartered in wardrooms and other places. Quarters could be provided for them by the construction of a story over the dining room and kitchen. New floors are needed in the wards, bathrooms, and water-closets; the old water-closets, bath tubs, and urinals should be replaced by those of modern sanitary make. New floors and other repairs are necessary in the stable, as are minor repairs to the shed adjoining the stable.

Hospital at Wilmington, N. C. (erected 1859).—Assistant Surg. J. H. Oakley, in temporary charge at the time that the report of the condition of this hospital was called for, makes the following report of repairs and alterations made during the fiscal year ending June 30, 1893:

The walls of the surgeon's quarters were painted, the work being performed by the attendants. A porcelain sink was furnished and placed in position in the dispensary, with hot and cold water faucets, at a cost of $62. A new flagstaff was erected on the lawn at a cost of $325. There was furnished and put in position for the hospital kitchen a hot-water tank, as also one in the medical officer's kitchen, the tanks and necessary connections costing $128.75.

There was furnished and placed in position in the attic a large iron reservoir tank at a cost of $386.30.

The plumbing in this hospital is in a very unsatisfactory condition. Since the new tanks have been put in position the flushing tanks to the water-closets on the second floor have been dry, requiring water to be brought and thrown into the closets; the water service, both hot and cold, in the dispensary is not satisfactory. It is thought that cold water for the second floor should be supplied by a pipe separate from that supplying the lower floor and basement.

The roof of the hospital building needs paint. A system of electric bells is needed.

Hospital at Vineyard Haven, Mass. (established 1880).—Passed Assistant Surg. J. C. Perry reports the following repairs and alterations made at this station during the fiscal year ending June 30, 1893:

Dormer windows, as per proposals accepted July, 1892, $160; surveying site, $75; minor repairs to building, repairing flag pole, and a small expenditure for locks and hinges and lumber for steps only have been made.

An appropriation is now available to enlarge and improve the buildings at this station; plans and specifications being now in the hands of the Supervising Architect. The proposed plan is to move the present buildings farther back on the reservation, and to utilize them with the design of erecting other buildings. The buildings will be of frame, and the wards probably on the pavilion style.

A fence about the reservation is necessary as a protection from cows and other animals which pasture in the fields around the hospital. A new range for the hospital kitchen is needed, as well as some repairs to plastering, and outside steps.

Hospital at St. Louis, Mo. (*erected 1885*).—Passed Assistant Surg. C. T. Peckham reports the following repairs at this hospital during the fiscal year ending June 30, 1893:

Repairs to floors, stairs, doors, and roof, $274; new sewer, $1,210; paints, etc., $102; repairs to heating apparatus, $21.87; laundry machinery, $10. Minor repairs at small cost have been made to the plumbing, boiler, and siphon tank.

The main halls, walls, and ceiling, as well as the steps and railing in the old hospital building, have been painted by the attendants.

The following repairs and improvements are considered necessary for the ensuing fiscal year:

Water tank, black iron, 10,000 gallons, $600; new flooring to galleries and other parts of hospital, $500; new awning for executive and old hospital buildings, $300. Minor repairs will be necessary to hot-water boiler, sink in steward's quarters, fence, plastering, and painting.

A new barn and wagon house are much needed, the present one being very old and in a tumble-down condition, the estimated cost of $3,000.

CARE OF SEAMEN.

The provisions made for the care of seamen for the fiscal year ending June 30, 1894, both in United States marine hospitals and by contract, are set forth in the following circular:

[Circular.]

TREASURY DEPARTMENT,
OFFICE OF THE SUPERVISING SURGEON-GENERAL U. S. M. H. S.,
Washington, D. C., June 19, 1893.

The following contracts for the care of seamen entitled to relief from this Service, for the fiscal year ending June 30, 1894, are published for the information of accounting officers of the Treasury Department, disbursing agents, medical officers of the Marine-Hospital Service, acting assistant surgeons, and customs officers. This circular is to be regarded as official notification of the acceptance of the proposals made by the parties designated, and must be cited, giving its number and date, on all bills for the treatment and maintenance of seamen, and for the burial of deceased patients, as the authority for any expenditure incurred under its provisions. Charges will be allowed for the day of admission of a hospital patient, but not for the day of discharge or death. The right is reserved by the Secretary of the Treasury to terminate any contract whenever the interests of the Service require it. All relief must be furnished in accordance with the revised regulations of the Marine-Hospital Service; and, in consequence of the largely increased expenditures for relief, and of the limited sources of income, it has become necessary to give notice that, as provided in the regulations, no allowance will be made for expenditures incurred at any other station than those named in this circular.

The term "contagious diseases," whenever occurring in this circular, except as to specific contracts made otherwise, includes only those diseases which, under usual municipal regulations, are required to be treated in a pest house, namely: Cholera, yellow fever, plague, or smallpox, and, in some municipalities, measles.

WALTER WYMAN,
Supervising Surgeon-General U. S. Marine-Hospital Service.

Approved:
J. G. CARLISLE,
Secretary of the Treasury.

Albany, N. Y.—The medical attendance to be furnished by an acting assistant surgeon; the Albany Hospital to furnish quarters, subsistence, nursing, and medicines, at $1 per day.

Alexandria, Va.—The medical attendance to be furnished by an acting assistant surgeon; the Alexandria Infirmary to furnish quarters, subsistence, nursing, and medicines, at 90 cents per day.

Apalachicola, Fla.—Dr. J. D. Rush to furnish medical attendance and medicines, at $30 per month; Martha Campbell to furnish quarters, subsistence, and nursing, at $1 per day, and to provide for the burial of deceased patients, at $12.50 each.

Ashland, Wis.—St. Joseph's Hospital to furnish quarters, subsistence, nursing, medical attendance, and medicines, at $1 per day.

Ashtabula, Ohio.—The medical attendance to be furnished by an acting assistant surgeon; Mrs. Henry Whelpley to furnish quarters, subsistence, and nursing, at $1 per day; contagious diseases, $1.50 per day; John Ducro & Sons to provide for the burial of deceased patients, at $14 each. Patients requiring long-continued hospital treatment will be furnished transportation to the U. S. Marine Hospital at Detroit, Mich.

Astoria, Oreg.—The medical attendance to be furnished by an acting assistant surgeon; St. Mary's Hospital to furnish quarters, subsistence, nursing, medical attendance, and medicines, at $1 per day; E. W. Kuykendall to provide for the burial of deceased patients, at $14 each.

Baltimore, Md.—Hospital patients to be cared for in the U. S. Marine Hospital; George Rinehart to provide for the burial of deceased patients, at $16.50 each.

Bangor, Me.—The medical attendance to be furnished by an acting assistant surgeon; John Foley to furnish quarters, subsistence, and nursing, at $1 per day; Abel Hunt to provide for the burial of deceased patients, at $10 each.

Bath, Me.—The medical attendance to be furnished by an acting assistant surgeon; William J. Howard to furnish quarters, subsistence, and nursing, at $1 per day; John M. Clark to provide for the burial of deceased patients, at $14 each. Patients requiring long-continued hospital treatment will be furnished transportation to the U. S. Marine Hospital at Portland, Me.

Belfast, Me.—The medical attendance to be furnished by an acting assistant surgeon.

Bismarck, N. Dak.—The medical attendance will be furnished by an acting assistant surgeon; Lamborn Hospital to furnish quarters, subsistence, nursing, and medicines, at 90 cents per day; Philip B. Webb to provide for the burial of deceased patients, at $20 each.

Boston, Mass.—Hospital patients to be cared for in the U. S. Marine Hospital at Chelsea, Mass.; burial of deceased patients at the hospital cemetery; burial of foreign patients, at $10 each.

Bridgeport, Conn.—Bridgeport Hospital to furnish quarters, subsistence, nursing, medical attendance, and medicines, at $1 per day; Hawley, Wilmot & Reynolds to provide for the burial of deceased patients, at $16 each.

Brownsville, Tex.—The medical attendance to be furnished by an acting assistant surgeon. Until other arrangements are made, $1 per day will be allowed for the care of hospital patients.

Brunswick, Ga.—The medical attendance to be furnished by an acting assistant surgeon; Johanna Foley to furnish quarters, subsistence, and nursing, at 90 cents per day; contagious diseases, at $1.75 per day; Charles G. Moore to provide for the burial of deceased patients, at $15 each.

Buffalo, N. Y.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; the Buffalo Hospital (Sisters of Charity) to furnish quarters, subsistence, nursing, and medicines, at 80 cents per day; contagious diseases, at $2 per day; and to provide for the burial of deceased patients, at $10 each.

Burlington, Iowa.—The St. Francis Hospital to furnish quarters, subsistence, medical attendance, nursing, and medicines, at 90 cents per day; J. Prugh to provide for the burial of deceased patients, at $15 each.

Burlington, Vt.—The "Mary Fletcher Hospital" to furnish quarters, subsistence, nursing, medical attendance, and medicines, at $1 per day.

Cairo, Ill.—Hospital patients to be cared for in the U. S. Marine Hospital; L. E. Falconer to provide for the burial of deceased patients, at $9 each.

Cambridge, Md.—The medical attendance to be furnished by an acting assistant surgeon. Hospital care and treatment will be furnished only to patients who are unable to bear transportation to the U. S. Marine Hospital at Baltimore, Md.

Charleston, S. C.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; out-patients to be treated at the dispensary (Atlantic Wharf); St. Francis Xavier's Infirmary to furnish quarters, subsistence, nursing, and medicines, at 85 cents per day; contagious diseases, $2 per day; and to provide for the burial of deceased patients, at $10 each. Seamen requiring long-continued hospital treatment will be furnished transportation to the U. S. Marine Hospital at Wilmington, N. C.

Chattanooga, Tenn.—The medical attendance to be furnished by an acting assistant surgeon; Hamilton County Hospital to furnish quarters, subsistence, nursing, and medicines, at 65 cents per day; Harry E. Chapman to provide for the burial of deceased patients, at $15 each.

Chicago, Ill.—Hospital patients to be cared for in the U. S. Marine Hospital; Fred. Klaner to provide for the burial of deceased patients, at $18.50 each.

Cincinnati, Ohio.—Hospital patients to be cared for in the U. S. Marine Hospital; dispensary at the hospital, southeast corner Third and Kilgour streets; John B. Habig to provide for the burial of deceased white patients, at $16 each; colored patients, at $17.50 each.

Cleveland, Ohio.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; the "Cleveland City Hospital Association" to furnish quarters, subsistence, nursing, and medicines, in the U. S. Marine Hospital under lease of September 21, 1875, at 64 cents per day. The hospital to be kept in repair by the association; Flynn, Abel & Froelk to furnish ambulance service, at $2 for each patient; G. Jasper to provide for the burial of deceased patients, at $11 each.

Corpus Christi, Tex.—The medical attendance to be furnished by an acting assistant surgeon; James E. Ellis to furnish quarters, subsistence, and nursing, at $1 per day.

Darien, Ga.—The medical attendance to be furnished by an acting assistant surgeon; patients requiring hospital treatment will be furnished transportation to Brunswick, Ga.

Detroit, Mich.—Hospital patients to be cared for in the U. S. Marine Hospital; out-patients to be treated at the dispensary, No. 90 Griswold street; J A. Dick & Co. to provide for the burial of deceased patients, at $8.90 each.

Dubuque, Iowa.—The medical attendance to be furnished by an acting assistant surgeon; St. Joseph's Mercy Hospital to furnish ambulance service, quarters, subsistence, nursing, and medicines, at $1 per day.

Duluth, Minn.—The medical attendance to be furnished by an acting assistant surgeon; St. Luke's Hospital to furnish quarters, subsistence, nursing, and medicines, at 90 cents per day; John W. Stewart to provide for the burial of deceased patients, at $15 each.

Edenton, N. C.—R. Dillard, M. D., to furnish quarters, subsistence, nursing, medical attendance, and medicines, at $2 per day. Patients requiring long-continued hospital treatment will be furnished transportation to the U. S. Marine Hospital at Wilmington, N. C. For out-patients $1 will be allowed for each medical examination, and 25 cents additional for each time medicine is furnished.

Elizabeth City, N. C.—The medical attendance to be furnished by an acting assistant surgeon.

Ellsworth, Me.—The medical attendance to be furnished by an acting assistant surgeon. Hospital care and treatment to be furnished only to patients who are unable to bear transportation to the U. S. Marine Hospital at Portland, Me.

Erie, Pa.—The medical attendance to be furnished by an acting assistant surgeon;

Hamot Hospital Association to furnish quarters, subsistence, and nursing, at 71 cents per day. Patients requiring long-continued hospital treatment will be furnished transportation to the U. S. Marine Hospital at Detroit, Mich.

Escanaba, Mich.—The medical attendance to be furnished by an acting assistant surgeon; Delta County Hospital to furnish quarters, subsistence, and nursing, at $1 per day.

Eureka, Cal.—The medical attendance to be furnished by an acting assistant surgeon; Maria Anderson to furnish quarters, subsistence, nursing, and medicines, at 95 cents per day.

Evansville, Ind.—Hospital patients to be cared for in the U. S. Marine Hospital; Henry Klee & Son to provide for the burial of deceased patients, at $20.50 each.

Fernandina, Fla.—The medical attendance to be furnished by an acting assistant surgeon; John H. Mills to furnish quarters, subsistence, and nursing, at $1 per day; contagious diseases, at $2 per day; and to provide for the burial of deceased patients, at $15 each.

Fredericksburg, Va.—The medical attendance to be furnished by an acting assistant surgeon; Amelia Parrott to furnish quarters, subsistence, nursing, and medicines, at $1 per day; contagious diseases, at $3 per day; George Nossett to provide for the burial of deceased patients, at $12.50 each.

Gallipolis, Ohio.—The medical attendance to be furnished by an acting assistant surgeon; Milton Ralph to furnish quarters, subsistence, and nursing, at 90 cents per day; and to provide office quarters for the acting assistant surgeon, at $10 per month; G. J. Wetherholt to provide for the burial of deceased patients, at $18 each.

Galveston, Tex.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; St. Mary's Infirmary to furnish ambulance service, quarters, subsistence, nursing, and medicines, at $1 per day; contagious diseases, at $2 per day; and to provide for the burial of deceased patients, at $10 each. Patients requiring long-continued hospital treatment will be furnished transportation to the U. S. Marine Hospital at New Orleans.

Georgetown, D. C.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; out-patients to be treated at the dispensary, No. 3 B street SE., Washington; Providence Hospital, Washington, to furnish quarters, subsistence, nursing, intern attendance, and medicines, at 75 cents per day.

Georgetown, S. C.—The medical attendance to be furnished by an acting assistant surgeon. John J. Lang and Susan Dennison to furnish quarters, subsistence, and nursing, at $1 per day; Joseph J. Dunmore to provide for the burial of deceased patients, at $18 each.

Gloucester, Mass.—The medical attendance to be furnished by an acting assistant surgeon. Patients requiring hospital care and treatment to be furnished transportation to the U. S. Marine Hospital at Chelsea, Mass.

The Government Hospital for the Insane, District of Columbia.—Under act of Congress, March 3, 1875, to furnish quarters, subsistence, nursing, medical attendance, and medicines, at $4.50 per week, for each insane patient admitted upon the order of the Secretary of the Treasury.

Grand Haven, Mich.—The medical attendance to be furnished by an acting assistant surgeon; Nancy Palmer to furnish quarters, subsistence, and nursing, at $1 per day.

Green Bay, Wis.—The medical attendance to be furnished by an acting assistant surgeon; St. Vincent Hospital to furnish quarters, subsistence, nursing, and medicines, at $1 per day; contagious diseases, at $3 per day: Lefebore & Schumacher to provide for the burial of deceased patients, at $16 each.

Hartford, Conn.—The Hartford Hospital to furnish quarters, subsistence, nursing, medical attendance, and medicines, at $1 per day; G. W. Woolley & Son to provide for the burial of deceased patients, at $13 each.

Jacksonville, Fla.—The medical attendance to be furnished by an acting assistant surgeon; Duval County Hospital to furnish quarters, subsistence, and nursing, at

$1 per day; Edward J. Gordon to provide for the burial of deceased patients, at $12.50 each.

Keokuk, Iowa.—Mercy Hospital to furnish quarters, subsistence, nursing, medical attendance, and medicines, at 43 cents per day.

Key West, Fla.—Hospital patients to be cared for in the U. S. Marine Hospital; John A. Preston to provide for the burial of deceased patients, at $8 each.

La Crosse, Wis.—The medical attendance to be furnished by an acting assistant surgeon; St. Francis Hospital, M. Ludovica, superior, to furnish quarters, subsistence, nursing, and medicines; at $1 per day; Theo. Mannstedt to provide for the burial of deceased patients, at $20 each.

Lewes, Del.—The medical attendance to be furnished by an acting assistant surgeon; Levin D. Lynch to furnish quarters, subsistence, nursing, and medicines, at $1 per day; Henry F. Conwell to provide for the burial of deceased patients, at $15 each.

Little Rock, Ark.—The medical attendance to be furnished by an acting assistant surgeon; Little Rock Infirmary to furnish quarters, subsistence, nursing, and medicines, at $1 per day; Cook & Jones to provide for the burial of deceased patients, at $9.75 each.

Louisville, Ky.—Hospital patients to be cared for in the U. S. Marine Hospital; out-patients to be treated at the dispensary, 915 Jefferson street; Lee E. Cralle to provide for the burial of deceased patients, at $17 each.

Ludington, Mich.—The medical attendance to be furnished by an acting assistant surgeon; Hannibal D. Linsley to furnish quarters, subsistence, and nursing, at $1 per day.

Machias, Me.—The medical attendance to be furnished by an acting assistant surgeon; Abiel E. Preble to furnish quarters, subsistence, and nursing, at 86 cents per day; L. H. Hanscom to provide for the burial of deceased patients, at $15 each.

Manistee, Mich.—The medical attendance to be furnished by an acting assistant surgeon; Mercy Hospital to furnish quarters, subsistence, nursing, and medicines, at 90 cents per day.

Marquette, Mich.—The medical attendance to be furnished by an acting assistant surgeon; St. Mary's Hospital to furnish quarters, subsistence, and nursing, at $1 per day; contagious diseases, at $4 per day; and to provide for burial of deceased patients, at $15 each.

Marshfield, Oreg.—The medical attendance to be furnished by an acting assistant surgeon; John Snyder to furnish quarters, subsistence, nursing, and medicines, at $1.20 per day.

Memphis, Tenn.—Hospital patients to be cared for in the U. S. Marine Hospital; John Walsh to provide for the burial of deceased patients, at $9 each.

Michigan City, Ind.—The medical attendance to be furnished by an acting assistant surgeon; seamen requiring hospital treatment must make application at the U. S. Marine Hospital at Chicago, Ill.

Milwaukee, Wis.—The medical attendance to be furnished by an acting assistant surgeon; out-patients to be treated at No. 466 Milwaukee street; St. Mary's Hospital to furnish quarters, subsistence, nursing, and medicines, at 80 cents per day; Charles E. Judson to provide for the burial of deceased patients, at $15.75 each. Chronic hospital patients to be furnished transportation to the U. S. Marine Hospital at Chicago, Ill.

Mobile, Ala.—Hospital patients to be cared for in the U. S. Marine Hospital; McKay & Roche to provide for the burial of deceased patients, at $12.50 each.

Nashville, Tenn.—The medical attendance to be furnished by an acting assistant surgeon; Nashville City Hospital to furnish quarters, subsistence, nursing, and medicines, at 90 cents per day.

New Bedford, Mass.—The medical attendance to be furnished by an acting assistant surgeon. Patients requiring hospital care and treatment, if able to bear transportation, will be sent to the U. S. Marine Hospital at Vineyard Haven.

Newbern, N. C.—The medical attendance to be furnished by an acting assistant surgeon. Patients requiring long-continued hospital treatment will be furnished transportation to the U. S. Marine Hospital at Wilmington, N.C. For other hospital patients, Cora A. Bragg to furnish quarters, subsistence, and nursing, at 75 cents per day; William F. James to provide for the burial of deceased patients, at $12.50 each.

New Haven, Conn.—The medical attendance to be furnished by an acting assistant surgeon; the New Haven General Hospital to furnish quarters, subsistence, nursing, and medicines, at $1 per day, and to provide for the burial of deceased patients, at $15 each. The New Haven board of health to furnish all necessary care and treatment in cases of any contagious disease, at $3 per day.

New London, Conn.—The medical attendance to be furnished by an acting assistant surgeon; the Memorial Hospital Association to furnish quarters, subsistence, nursing, and medicines, at $1 per day; contagious diseases, at $3 per day.

New Orleans, La.—Hospital patients to be cared for in the U. S. Marine Hospital; Schopp & Son to provide for the burial of deceased patients, at $10 each.

Newport, Ark.—The medical attendance to be furnished by an acting assistant surgeon; Puss Watkins to furnish quarters, subsistence, and nursing, at $1 per day.

Newport, R. I.—The medical attendance to be furnished by an acting assistant surgeon; the Newport Hospital to furnish quarters, subsistence, nursing, and medicines, at $1 per day; Michael Cottrell to provide for the burial of deceased patients, at $11.50 each. Patients requiring long-continued hospital treatment will be furnished transportation to the Marine Hospital, Stapleton, Staten Island, N. Y.

New York, N. Y.—Hospital patients to be cared for in the Marine Hospital, Stapleton, Staten Island, N. Y.; out-patients to be treated at the dispensary, near the "New Barge Office, Battery;" G. F. Schaefer, of Staten Island, to provide for the burial of deceased patients, at $7.90 each.

Norfolk, Va.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; St. Vincent Hospital to furnish quarters, subsistence, nursing, ambulance service, and medicines, at 83 cents per day; J. E. Edwards to provide for the burial of deceased patients, at $9.75 each.

Ogdensburg, N. Y.—The medical attendance to be furnished by an acting assistant surgeon; the City Hospital to furnish quarters, subsistence, medicines, and nursing, at $1.25 per day, and to provide for the burial of deceased patients, at $15 each.

Oswego, N. Y.—The medical attendance to be furnished by an acting assistant surgeon; the Oswego Hospital to furnish quarters, subsistence, nursing, and medicines, at $1.25 per day.

Pensacola, Fla.—The medical attendance to be furnished by an acting assistant surgeon; R. W. Hargis to furnish quarters, subsistence, nursing, and medicines, at $1 per day; and S. B. Hutchinson & Co. to provide for the burial of deceased patients, at $15 each. Patients requiring long-continued hospital treatment will be furnished transportation to the U. S. Marine Hospital at Mobile, Ala.

Philadelphia, Pa.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; the German Hospital to furnish ambulance service, quarters, subsistence, nursing, medicines, and one interne, at $1 per day, and to provide for the burial of deceased patients, at $15 each.

Pittsburg, Pa.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; out-patients to be treated at No. 96 Wood street; the Mercy Hospital to furnish quarters, subsistence, nursing, medicines, and a resident physician, at 94 cents per day; J. J. Giltinan to provide for the burial of deceased patients, at $13 each. Care and treatment of contagious cases to be furnished by the Pittsburg Department of Public Safety, at $2 per day.

Port Huron, Mich.—The medical attendance to be furnished by an acting assistant surgeon; "Hospital and Home" to furnish quarters, subsistence, and nursing, at $1 per day. Patients requiring long-continued hospital treatment will be furnished transportation to the U. S. Marine Hospital at Detroit. George Thompson to provide for the burial of deceased patients, at $8 each.

Portland, Me.—Hospital patients to be cared for in the U. S. Marine Hospital; Ilsley Bros. to provide for burial of deceased patients, at $6.50 each.

Portland, Oreg.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; out-patients to be treated at the dispensary, room 21, Union Block, corner of First and Stark streets; St. Vincent's Hospital to furnish quarters, subsistence, nursing, and medicines, at 59 cents per day; contagious diseases, at $2 per day; F. S. Dunning to provide for the burial of deceased patients, at $10 each.

Portsmouth, N. H.—The medical attendance to be furnished by an acting assistant surgeon; Cottage Hospital to furnish quarters, subsistence, and nursing, at $1 per day; contagious diseases, at $3 per day.

Port Townsend, Wash.—Hospital patients to be cared for in the U. S. Marine Hospital; George E. Starrett to provide for the burial of deceased patients, at $16 each.

Providence, R. I.—The Rhode Island Hospital to furnish quarters, subsistence, nursing, medical attendance, and medicines, at $1 per day, and to provide for the burial of deceased patients, at $12 each. Patients requiring long-continued hospital treatment will be furnished transportation to the U. S. Marine Hospital at Chelsea (port of Boston).

Richmond, Va.—The medical attendance to be furnished by an acting assistant surgeon; out-patients to be treated at the Marine-Hospital office, custom-house building; "Retreat for the Sick" Hospital to furnish quarters, subsistence, nursing, and medicines, at $1 per day.

Rockland, Me.—The medical attendance to be furnished by an acting assistant surgeon; John S. Ranlett to furnish quarters, subsistence, and nursing, at $1 per day; E. A. Burpee to provide for the burial of deceased patients, at $14 each. Patients requiring long-continued hospital treatment to be furnished transportation to the U. S. Marine Hospital at Portland, Me.

Rome, Ga.—The medical attendance to be furnished by an acting assistant surgeon; the Martha Battey Hospital to furnish quarters, subsistence, and nursing, at $1 per day.

Saginaw, Mich.—The medical attendance to be furnished by an acting assistant surgeon; St. Mary's Hospital to furnish quarters, subsistance, nursing, and medicines, at 65 cents per day. Patients requiring long-continued hospital treatment to be furnished transportation to the U. S. Marine Hospital at Detroit, Mich.

St. Louis, Mo.—Hospital patients to be cared for in the U. S. Marine Hospital; Christ. Shawacker to provide for the burial of deceased patients, at $12 each.

St. Paul, Minn.—The medical attendance to be furnished by an acting assistant surgeon; St. Luke's Hospital to furnish quarters, subsistance, nursing, and medicines, at $1 per day, and to provide for the burial of deceased patients, at $8 each.

San Diego, Cal.—Drs. W. A. Winder and C. C. Valle to furnish quarters, subsistence, nursing, medical attendance, and medicines, at $1.25 a day; contagious diseases, at $1.50 per day; and to provide for the burial of deceased patients, at $8 each.

Sandusky, Ohio.—The medical attendance to be furnished by an acting assistant surgeon; the Good Samaritan Hospital to furnish quarters, subsistence, and nursing, at $1 per day.

San Francisco, Cal.—Hospital patients to be cared for in the U. S. Marine Hospital; out-patients to be treated at the Marine Hospital office, rooms 1–3, Appraiser's building; burial of deceased patients at the hospital cemetery; burial of foreign seamen, at $10 each.

San Pedro, Cal.—Randolph W. Hill, M. D., to furnish quarters, subsistence, nursing, medical attendance, and medicines, at 90 cents per day; contagious diseases, at $1.50 per day; and to provide for the burial of deceased patients, at $7 each.

Sault Ste. Marie, Mich.—The medical attendance to be furnished by an acting assistant surgeon; Mrs. Annie McNeeley to furnish quarters, subsistence, and nursing, at $1 per day; J. Vanderhook to provide for the burial of deceased patients, at $5 each.

Savannah, Ga.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; St. Joseph's Infirmary to furnish quarters, subsistence, nursing, and medicines, at $1 per day; John H. Fox & Co. to provide for the burial of deceased patients, at $7.75 each. Patients requiring long-continued hospital treatment will be furnished transportation to the U. S. Marine Hospital at Wilmington, N. C.

Seattle, Wash.—The medical attendance to be furnished by an acting assistant surgeon; Providence Hospital to furnish quarters, subsistence, nursing, and medicines, at 75 cents per day.

Shreveport, La.—The medical attendance to be furnished by an acting assistant surgeon; out-patients to be treated at the Marine-Hospital office; Shreveport Charity Hospital to furnish quarters, subsistence, nursing, and medicines, at $1 per day; J. S. Rendall to provide for the burial of deceased patients, at $11 each.

Sitka, Alaska.—The medical attendance to be furnished by an acting assistant surgeon.

Solomons, Md.—The medical attendance to be furnished by an acting assistant surgeon; F. P. Harten to furnish subsistence, nursing, fuel, and lights, at $1 per day; T. M. White to provide for the burial of deceased patients, at $7.50 each. Patients requiring long-continued hospital treatment to be furnished transportation to the U. S. Marine Hospital at Baltimore, Md.

Superior, Wis.—The medical attendance to be furnished by an acting assistant surgeon; St. Francis Hospital to furnish quarters, subsistence, nursing, and medicines, at 90 cents per day.

Tacoma, Wash.—The medical attendance to be furnished by an acting assistant surgeon; Fanny C. Paddock Hospital to furnish quarters, subsistence, nursing, and medicines, at 63 cents per day.

Tappahannock, Va.—Drs. Jeffries and Robinson to furnish quarters, subsistence, nursing, medical attendance, and medicines, at Tappahannock; Dr. W. J. Newbill at Carters Creek, and Dr. W. S. Christian at Urbana, each at $1.50 per day. Patients requiring long-continued hospital treatment will be transferred to the U. S. Marine Hospital at Baltimore, Md.

Toledo, Ohio.—The medical attendance to be furnished by an acting assistant surgeon; St. Vincent Hospital to furnish quarters, subsistence, nursing, and medicines, at 80 cents per day; contagious diseases, $2 per day; and to provide for the burial of deceased patients, at $15 each.

Tuckerton, N. J.—The medical attendance to be furnished by an acting assistant surgeon.

Vicksburg, Miss.—The medical attendance to be furnished by an acting assistant surgeon; the Vicksburg City Hospital to furnish quarters, subsistance, nursing, and medicine, at $1 per day; contagious diseases, $3 per day.

Vineyard Haven, Mass.—Hospital patients to be cared for in the U. S. Marine Hospital; M. C. Vincent to provide for the burial of deceased patients, at $17 each.

Wheeling, W. Va.—The medical attendance to be furnished by an acting assistant surgeon; the Wheeling Hospital to furnish quarters, subsistence, nursing, and medicines, at 75 cents per day.

Wilmington, N. C.—Hospital patients to be cared for in the U. S. Marine Hospital; Edward Green to provide for the burial of deceased patients, at $12 each.

At the following-named ports, hospital or other relief will be furnished only under the provisions of the Regulations for the Marine-Hospital Service as to *third-class* stations: Barnstable, Mass.; Beaufort, N. C.; Beaufort, S. C.; Castine, Me.; Cedar Keys, Fla.; Chatham, Mass.; Dennis, Mass.; Eastport, Me.; Edgartown, Mass.; Hyannis, Mass.; Newport News, Va.; Perth Amboy, N. J.; Provincetown, Mass.; Sag Harbor, N. Y.; Salem, Mass.; Somers Point, N. J.; Tampa, Fla.; Waldoboro, Me.; Wilmington, Del.; Wiscasset, Me.

The rate at ports not specifically provided for by this circular will, in each special case, be fixed by the Department, upon the recommendation of the proper officer, in accordance with the regulations.

The rate of charge for seamen from vessels of the Navy and Coast Survey, admitted to hospital under the provisions of the regulations, and for foreign seamen admitted under the act of March 3, 1875, is hereby fixed at the uniform rate of $1 per diem.

At all ports not otherwise specified, the dispensary is located at the custom-house or marine hospital.

PURVEYING DIVISION.

In the purveying division 431 requisitions for medical and other supplies have been filled to meet the wants of 19 U. S. Marine Hospitals and 42 other relief stations of the Service.

Ten national quarantine stations, two United States revenue cutters, the Emergency Hospital at the barge office, and the Insane Hospital at Ellis Island, New York Harbor, under the control of the Immigration Service, have received their medical supplies through this division.

The following is a summary of the cost of the various supplies purchased for issue during the year :

Medical supplies	$14,433.33
Hospital stores	6,871.38
Hospital sundries	7,839.76
Surgical instruments and appliances	4,644.61
Bedding and clothing	13,278.99
Medical books and journals	852.47

Of these amounts the Service was reimbursed in the sum of $7,232.17 for supplies furnished quarantine stations, the Revenue-Marine, and the Immigration Services.

AID TO OTHER BRANCHES OF THE GOVERNMENT SERVICE.

Aid has been given to other branches of the Government service as follows:

(1) *Aid to the Life-Saving Service.*—During the year ended June 30, 1893, there were 1,095 surfmen and keepers examined, of which number 41 were rejected for physical causes. All claims for pensions made by keepers and crews of the Life-Saving Service under the act of May 2, 1882, have been passed upon in the office of the Surgeon-General.

(2) *Aid to the Inspection Service of Steamboats.*—During the year 1,353 pilots were examined with regard to their sight, more particularly with regard to their ability to distinguish colors; 48 were rejected, 34 on account of color-blindness.

(3) *Aid to the Revenue-Marine Service.*—Four boards, composed of medical officers of the Marine-Hospital Service, were convened for the physical examination of officers of the Revenue Marine Service, and n the physical examination of candidates for appointment in that Service. There were 279 seamen examined physically as a prerequisite to their enlistment, of which number 22 were rejected.

(4) *Aid given to the Immigration Service.*—Medical officers of the Marine-Hospital Service are specially detailed at the following ports for medical inspection of immigrants, namely: Boston, New York, Philadelphia, and Baltimore. At all other ports the regular officer on duty at the station is available for this service as occasion requires.

The following reports have been received from medical officers stationed at the ports mentioned, showing the number of immigrants examined and rejected:

Portland, Me.—Examined, 250; rejected, none.

Boston, Mass.—Examined, 71,592; rejected, 22.

New York.—Total number inspected upon arrival, 356,064; number examined physically, certified, and recorded upon arrival, 4,069. Of these there were sent to hospital, 1,425; sent before the commissioner or board of special inquiry[1] for action, 2,259; recorded for minor defects, 395. Under the one-year clause: Certified for deportation, 272, admitted to hospital, 547.

Philadelphia, Pa.—Examined, 29,294; rejected, 33.

Baltimore, Md.—Examined, 26,183; temporarily detained in hospital, 86.

New Orleans, La.—Examined, 2,929; rejected, none.

ACKNOWLEDGMENTS.

Acknowledgment is due the honorable the Secretary of War for the transfer of Reedy Island for quarantine purposes:

To the honorable the Secretary of the Navy, for his offer of steam launches and other aid in quarantine measures at the port of New York:

To the Revenue-Marine Service, for cordial cooperation in quarantine measures, furnishing steamers for patrol and inspection in New York Harbor, at Brunswick, Ga., Beaufort, S. C., and frequent service in transportation in the South Atlantic and Gulf waters:

To the Life-Saving Service, for vigilance on the part of the keepers and crews, in accordance with the following circular:

CIRCULAR.—IN AID OF THE ENFORCEMENT OF QUARANTINE REGULATIONS.

TREASURY DEPARTMENT,
OFFICE GENERAL SUPERINTENDENT LIFE-SAVING SERVICE,
Washington, D. C., September 2, 1893.

To Keepers of Life-Saving Stations:

Information has been received that quantities of bedding, garbage, and other articles are being washed ashore from vessels sailing from ports infected with epidemic disease. Some of these may have been used by patients on the voyage, and the danger from them may be serious.

You are therefore directed to watch carefully for such articles, and in the event of any being found to collect the same by rakes or other means, without actually handling them, dry and burn them, in the meantime guarding them and allowing no person to handle them.

Efforts may also be made to evade the quarantine regulations of the country by persons attempting to land from vessels from infected ports on beaches and places outside of established ports of entry. You will prevent the accomplishment of all such attempts within your province.

This circular will supersede circulars, Department Nos. 156 and 162, of 1892.

S. I. KIMBALL,
General Superintendent.

Approved:

CHARLES S. HAMLIN,
Acting Secretary.

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[1] In May, 1893, the final disposition of all cases was placed in the hands of a board of special inquiry.

Acknowledgment is also due to the Coast Survey for services in the survey of Reedy Island preliminary to the establishment of a quarantine station, the survey of Hog Island, in the Chesapeake Bay, for the same purpose, and for charts and other publications.

WORLD'S COLUMBIAN EXPOSITION.

In conjunction with other bureaus of the Treasury Department the Marine-Hospital Service was represented in the World's Columbian Exposition of 1893 by a display in the Government Building illustrative of the workings of the Service in its several branches. The exhibit was divided into three general classes·

(1) Marine-Hospital Service.
(2) Quarantine Service.
(3) Laboratory.

In the division of the Marine-Hospital Service proper were exhibited all the equipments pertaining to a marine hospital.

The division of the quarantine service embraced a model of a quarantine station, a model of a detention camp, disinfecting apparatus in use at quarantine stations and by municipalities, and all the appurtenances used by the Service in preventing the spread of epidemic disease.

The laboratory exhibit showed a well-equipped laboratory, bacteriological and chemical, designed to meet all requirements in the investigation of subjects relating to preventive medicine.

The board of awards has notified the Bureau that diplomas have been granted to the Marine-Hospital Service on account of the following exhibits:

(1) Surgical instruments.
(2) Hospital furniture.
(3) Quarantine apparatus.
(4) Bacteriological laboratory and display of bacteria.
(5) Cooling cabinet for use in the investigation of cholera.
(6) Statistical sanitary publications of great value.

SPECIAL REPORTS.

MARINE-HOSPITAL SERVICE.

MEDICAL, SURGICAL, AND DESCRIPTIVE.

REMARKABLE CASE OF ANEURISM OF AORTA—PATIENT LIVED THREE DAYS AFTER RUPTURE.

By Surg. P. H. Bailhache.

R. W.; aged 54 years; native of Finland; admitted to U. S. Marine Hospital, San Francisco, Cal., August 12, 1891.

History.—Nothing distinctive as to syphilis. Always has been strong and healthy. Noticed a pulsating tumor in suprasternal region about eight months ago. Previously had been subject to pain in the chest, paroxysmal, and increased by exertion.

Physical examination.—Well-marked arcus senilis—pulsating tumor occupying place of first piece of sternum, which has been absorbed. No venous stasis. Left radial pulse weaker than right. No bruit—aortic second sound accentuated.

Dr. F. W. D'Evelyn, of San Francisco, was consulted by patient in early summer of 1889, and following are the doctor's notes (somewhat condensed) of the case:

"History, except for arduous nature of occupation, favorable. Patient well nourished, general health good; is a strong man. Complains of almost constant pain, varies from a 'stitch' to a dull, heavy ache—most marked in left mammary region from parti-sternal line to anterior axillary line; at times 'stitch' appears in left supraclavicular region. No pain in arm, no dyspnœa, no dysphagia, no pressure symptoms; pain not intensified by motion, exertion, or pressure. Has been told his trouble is intercostal neuralgia, as a result of several examinations.

"*Physical examination.*—Well-marked arcus senilis. Left radial pulse a little less constant than right. (No tracing.) Area of heart dullness normal; no increase of dullness on line of aortic arch. Heart sounds normal, except that aortic second sound at base had a superadded quality, i. e., the valve closed with normal tension, but the sound was sustained for a longer period than normal, giving it the character of a reverberation not at all like the increased intensity oftentimes heard when the media transmits the sound more readily than normal. It suggested an increase in the diameter of the vessel, not at the valves or sinuses, but sufficiently near to act as a 'sound chamber.' On these physical signs a diagnosis of aortic thoracic aneurism was made and patient advised to discontinue his heavy work and avoid all extra exertion. Patient disappeared for many months, and upon his return presented a small but distinct aneurismal swelling at aortic cartilage. Patient had made a sea voyage during interval."

January 30, 1892.—Tumor much reduced in size; pulsation and pain lessened. Patient directed to remain in bed and given ℞ Potass. Iodide, sat. sol. 25.00. Sig.: 10 drops in water after meals; increase drop by drop daily to 60 drops 3 times a day.

From February 1, 1892, until about the middle of December the case progressed steadily downward, the tumor slowly enlarging from February 6 and the pain increasing somewhat. The treatment consisted in occasional arterial sedatives; anodynes as needed to produce sleep, and more or less complete rest. At Christmas time, on his urgent request, he was allowed to visit friends in the city, returning December 27, complaining of increased pain. The tumor had now for some time presented two well-marked projections, one directed up under the chin, the other out in front at the right side. (The condition is well shown in the photographs taken by Passed Assistant Surg. Kalloch and Assistant Surg. Gardner about this time.) The skin over these projections, especially the upper one, was darker than elsewhere over the tumor, and the pulsation, a heaving of the whole tumor, especially marked at the tops of the projections, the skin over which appeared thin and soft. The patient was put to bed and given veratrum viride, bromides to lessen his nervous excitement and apprehension, and morphine occasionally as the pain required.

January 9, 1893.—Skin over topmost projection is purple—almost black; looks as though it would ulcerate any day. Pain continuous. Bromides and morphine directed to be used as necessary.

January 11.—Skin over upper projection still more dark and a scab has formed. Bowels open; feels pretty fair except for pain in chest. At 4 p. m. blood began to seep from upper projection. Four narrow strips of adhesive plaster crossed over apex and bleeding stopped. Given tinct. verat. viride, ten drops at once and eight every two hours.

January 12.—More comfortable; continue verat. viride, eight drops every three hours. No special change until.

January 17.—At 3:38 a. m. aneurism burst. Bleeding continued for two or three minutes, a considerable amount of blood being lost, covering bed and floor, but flow stopped spontaneously by internal mass of fibrin plugging up the rent in skin. The rupture is seen to extend from suprasternal notch to a point below, not exactly ascertained. Patient given morphia and strict rest ordered. A mass of absorbent cotton applied over rupture. Death expected by return of hemorrhage at any moment. Pulse weak, mind wandering; patient would begin to speak and break off in the midst of a sentence, forgetting what he intended to say; 10:30, as much as possible of absorbent cotton cut away and the remainder saturated with $HgCl_2$ sol., 1–5,000, $HgCl_2$ gauze applied to prevent decomposition and odor, and a mass of absorbent cotton held in place by adhesive plaster, exercising pressure on aneurism. Ordered morphine to control pain. Three p. m., is resting easily. Nine p. m., contrary to strict orders, got up on a chair to evacuate bowels; said he could not use bedpan; no immediate bad effect; slight bleeding has evidently continued all day.

January 18.—A. m., is cheerful; pulse 80 and somewhat weak; has a good color; pain has returned; feels choked; takes milk regularly, 2 ounces every hour; slight nausea occasionally; no vomiting; bleeding still continues, but dressings not saturated; no bad odor; ordered bromide and cannabis indica; no morphine unless pain is excessive. P. m., has had a good day; no nausea nor vomiting; is quite comfortable.

January 19.—A. m., got up again last evening to have stool; no stool; no increase of bleeding; had a good night; no morphine; no pain; dressings changed, as now odorous; no bleeding.

January 20.—Had a good night.

January 21.—Bleeding began again, while patient was entirely quiet, at 7 a. m. He said only, "Call the nurse," and immediately became unconscious, expiring at 7:30.

Necropsy (*nine hours after death*).—A bulging tumor in center of upper part of chest in front, as large as the two fists, measuring 75 cm. in circumference, and beginning just below clavicles. The skin could only with great difficulty be dissected off. The aneurism was removed with the heart and thoracic aorta. The rent from which bleeding occurred was 3¾ cm. in length and filled with soft fibrin. The bulging of the aorta was found to begin just outside of the line of reflection of the pericardium. Between the heart and aneurism were numerous depressed circular cicatrices about 1 cm. in diameter. Considerable laminated fibrin in interior. The most of the first piece of the sternum and the second, as far as the junction with it of the second rib on each side, together with the ends of the first and second costal cartilages on each side, were found to have been eroded and absorbed. The valves of the heart were all competent; the left ventricle somewhat hypertrophied. No other parts examined.

COMMINUTED FRACTURE BONES OF FOREARM—RESECTION ELBOW JOINT—RECOVERY.

By Surg. HENRY W. SAWTELLE.

F. P.; aged 27 years; nativity, Norway; admitted to Boston Marine Hospital August 9, 1892. This seaman stated that he was injured a few hours prior to admission while riding in a passenger train with the right arm resting on a window sill, the elbow projecting slightly out of the window, but he was unable to give full particulars. It is probable, however, that he was struck by some foreign body projecting from a passing train. The injured arm was temporarily dressed by a railroad surgeon. When the patient arrived at the hospital the limb was very much enlarged and puffy, the swelling extending to the shoulder, and hence the nature and extent of the injury could not be ascertained precisely, but it was evident that the bones were fractured. There was considerable ecchymosis of the forearm and several large blisters on its surface. The limb was placed at rest on a pillow, bathed with soap liniment, and cold-water applications applied. Morphine sulphate was administered hypodermatically to relieve pain.

August 10.—Swelling much the same as on previous visit. Cold-water applications continued. Evening temperature, 38° C.; pain not so severe.

August 11 and 12.—More comfortable. Temperature a. m., 37.4; p. m., 38° C.

August 15.—Swelling somewhat subsided since last note. Loose fragments of bone now detected. The patient was placed under chloroform, and an incision, about 10 centimeters in length, beginning just above the olecranon, was made and carried downward parallel to the course of the ulnar nerve, and the following injuries were found, viz: Fracture of external condyle of humerus, olecranon process, coronoid process, and head of radius. Many spiculæ of bones were found impacted in the soft tissues and the parts were badly lacerated. The ulna was comminuted. The head of radius was broken across or cracked. The external condyle slightly fractured and two small fragments removed therefrom. Olecranon was dissected from its attachment and removed. All fragments being removed, the upper portion of ulna and the head of radius were sawn off with a chain saw. The parts were cleansed with warm distilled water, drainage tubes introduced, whole limb enveloped in sublimate gauze and absorbent cotton, and all covered with oil silk. Patient had slight rise of temperature for first week; dressings changed each day and wound irrigated with peroxide of hydrogen. He made an uninterrupted recovery, and was discharged with good use of arm on September 28, 1892.

CENTRAL NECROSIS OF TIBIA—TREPHINED AND SKIN GRAFTED—RECOVERY.

By Surg. HENRY W. SAWTELLE.

J. H.; aged 29 years; nativity, Pennsylvania; admitted to Boston Marine Hospital January 6, 1893; suffering from an ulcer of the right leg and necrosis of the tibia at about the middle of the bone. It appears from the history given by the patient that several years ago he received a contused wound of this leg, but the wound closed quickly, and caused him so little trouble that he did not consult a physician. No history of syphilis. Upon examination the bone was found to be somewhat roughened and softened. General course of tonics during January with local treatment of ulcer was apparently of no benefit.

February 11.—The patient was etherized and the bone exposed by an incision through soft parts over tibia, about 15 centimeters in length, having the ulcer for its center and extending about 5 centimeters above and below original skin lesion, and necrosed bone scraped and chiseled away, when it was found that osseous tissue was soft and friable. Evidently there had existed a bone abscess at this point. An inch trephine was applied and two buttons removed, all dead or soft bone gouged out, wound dressed with iodoform gauze, gutta-percha tissue, and absorbent lint, with a roller over all. Case did well, most of external wound closing over June 1, 1893; still a slight sinus left. Later skin broke down again, leaving quite a superficial lesion below, but healthy bone was gradually filling in where buttons were removed.

July 10.—Patient again etherized and bone exposed by incision; at this time only a limited amount of carious bone was found, and this superficial. This was scraped, and one or two small holes drilled into cavity to drain bone. Point of former trephining is filled out with soft-bone tissue; perfectly healthy wound; dressed as before.

July 13.—The skin lesion being large, skin was taken from arm and transplanted to leg wound by Dr. McIntosh. Six grafts were made at this time, and at first dressing, five days later, four were found to have taken root and were growing nicely.

July 25.—A second series of grafts were transplanted, three of which lived, took root, and the seven gradually joined the healthy skin at sides and center, closing wound.

This seaman has also been under treatment for an organic stricture of the urethra. Discharged, recovered, September 9, 1893.

FRACTURE SCAPULA AND RIBS—RECOVERY.

By Surg. HENRY W. SAWTELLE.

P. M.; aged 40 years; nativity, Ireland; admitted to the U. S. Marine Hospital, port of Boston, Mass., May 4, 1893. At this time he gave history of a fall from wharf, a distance of about 10 feet, striking on shoulder and back against a vessel lying there. He remained at Gloucester until the following day without treatment, after which he was transferred to this hospital, a distance of 30 miles, in a baggage car with no appliance and no comfort, except that furnished by the floor of the car. An examination at this time revealed a fracture of the inferior angle of the scapula and of fifth, sixth, seventh, and eighth ribs, right side, posteriorly; dressed by passing strips of adhesive plaster around chest so as to overlap one another, beginning below so as to retain the ribs in proper position and extending up sufficiently to include both pieces of the fractured scapula and retain them in position. A bandage was then applied over strips of plaster, and the shoulder and arm fixed by a roller. Complains of much pain in right side on respiration. This was controlled with morphine. On sixth day the dressings were removed and position of fractured bones found to be good. Dressings were again applied as before with adhesive strips and roller. This dressing remained until June 2, 1893, at which time the bones were found to be firmly united and the patient was discharged from treatment. By a close examination a small ridge could be detected at the line of fracture of scapula. On May 5 and 6 temperature registered 39° C.; with this exception he had no rise of temperature. He suffered considerably from cough at first, but this gradually disappeared. It is claimed by most authors that in fracture of the inferior angle of the scapula it is impossible to keep the lower fragment in place. Keen & White, in the American Text-Book of Surgery, page 299, remark that "the small lower fragment is displaced forward and upward by the attached muscles and even if it can be restored to its place it can not be kept there."

Hamilton states (Hamilton on Fractures and Dislocations, seventh American edition, page 237): "The scapula is usually broken by the fall of some heavy body directly upon the bone or by some severe crushing accident, by a fall upon the back, by direct causes alone, and by such causes as operate with great violence," and on page 241 he adds: "In the treatment of no other fracture, perhaps, have surgeons differed so widely as to the indications than in this."

In this case the fragments were coaptated and held together with adhesive strips carefully applied, the shoulder and arm being immovably fixed by Velpeau's bandage.

MULTIPLE INJURY—RECOVERY.

By Surg. HENRY W. SAWTELLE.

R. E.; aged 29 years; nativity, Norway; was admitted to the Boston Marine Hospital April 18, 1892, from the American bark *Antioch*. About one week prior to arrival in port this seaman fell from the foretopsail yard, striking on the fore hatch, a distance of 60 feet, receiving a compound comminuted fracture of the left tibia, just above the malleolus, with a double simple fracture of the fibula of the same leg; fracture of the inferior maxilla in three places, namely, at point of junction of body with ascending ramus on either side, the other at about 2 cm. from symphysis—the lateral fractures were oblique, the anterior fragments being at expense of the internal surface of the bone. There was also an injury of the head over mastoid process and contusions of the shoulder and arm. The leg was dressed at sea by the captain and kept in splints. Upon admission the wound was very foul; pectoral muscles emphysematous. After removal of several pieces of bone from the wound, the injured leg was immersed in a solution of carbolic acid, 1–120, for a few minutes, then irrigated with peroxide of hydrogen. The parts were then covered with iodoform and bichloride gauze and the limb placed in a fracture box. The fractured jaw was coaptated and maintained in position by wiring incisors and canine teeth together and by application of bandages. The clavicle was retained in place by a modification of the Velpeau bandage. The patient suffered at times for some weeks with a mild form of traumatic delirium, due to concussion of the brain, inflammation of the cerebral membranes being excluded as the cause thereof, there being no rise of temperature.

April 20.—A small piece of bone was removed from the wound. There is considerable swelling over mastoid process which is painful to the touch, and he has pain in head and ear. Hot douches to ear and hot-water applications externally give some relief.

May 3.—Plaster of Paris bandage applied to leg, windows being left for dressing wound and for pressure sores which had appeared prior to admission.

May 19.—Moderate discharge from ear; pain in same less severe; fibula united.

June 3.—Patient has improved generally; fractured clavicle and inferior maxilla united; discharge from ear about stopped; lymph glands of groin inflamed and painful.

June 19.—Small sequestrum removed from lower fragment of tibia.

July 23.—Several small splinters which had been impacted in the tissues have been removed from time to time with the dressings.

August 4.—A small sequestrum, 3 centimeters in length, removed. There has been a general slow improvement up to date.

February 4.—Under ether; tibia scraped for caries at point of fracture.

February 27.—While trying to walk on crutches fell and injured leg badly. Lower end of tibia close to joint destroyed to such an extent that there appears to be no prospect of saving the limb, and the patient so notified.

March 4.—Under chloroform the left leg was amputated at the upper third by circular operation.

March 20.—Patient still suffers more or less from headache, though he is doing well otherwise.

May 5.—Fell again yesterday while exercising on crutches, injuring stump and sustaining a contused wound of the forehead.

May 22.—Discharged recovered with good stump. Peg leg furnished.

THE UNITED STATES MARINE-HOSPITAL SERVICE.

By Surg. GEORGE W. STONER.

Detailed to represent the Marine Hospital Service at the International Congress of Charities, Correction, and Philanthropy, 1893. Read before the Section on "Hospital care of the sick, training of nurses, dispensary work, and first aid to the injured."

The Marine-Hospital Service is not quite as old as the Declaration of Independence, the adoption of the Constitution, or the establishment of the Government of the United States, but it has already reached a very respectable age and is fast approaching its centennial.

England had a marine hospital at an earlier date, the celebrated Greenwich Hospital, but this was essentially a military institution, established for the benefit of seamen of the royal navy. The Marine-Hospital Service of the United States was established, or rather provision for its establishment was made by act of Congress approved July 16, 1798. By this act Congress imposed a tax of 20 cents a month on every seaman employed on vessels of the United States engaged in the foreign and coasting trades, and out of the moneys collected by authority of this act, the President of the United States was authorized to furnish temporary relief to sick and disabled seamen, the moneys to be expended in the districts wherein collected. This, however, was amended the following year, March 2, 1799, by an act authorizing the expenditure of hospital money within any part of the State where collected, or in the State next adjoining. An amendment was also passed at this time extending the operations of the law so as to include the officers and seamen of the Navy.[1] The sentiment that led to the passage of the act establishing the Marine-Hospital Service was forcibly expressed by the Boston Marine Society as early as 1791; and in the House of Representatives, November 19, 1792, in his speech on the improvement of commerce, the Hon. Mr. Williamson said:

"Wherever it is probable that sailors may be sick there I would make provision for their support and comfort. Hospitals should be erected, or lodgings hired as the case may be, at every port of entry in the United States for sick and infirm seamen, where they may be properly attended during their indispositions. The money to be collected at the several ports as hospital money should be expended at such port and no other place, under the care of such person as may be designated for that purpose. Let a small deduction be made from the wages of every seaman to be paid at the several ports of entry for their use. I have mentioned a deduction from their wages because this mode of raising money would probably be more acceptable, and because it is the most equitable tax that can be levied."[2]

Hospital treatment or its equivalent was given to sick and disabled seamen by the Marine-Hospital Service in Boston as early as 1779, the year following the establishment of the Service. The first marine hospital owned by the Government and established under the act of 1798 was located at Washington Point, Norfolk County, Virginia. It was purchased by the United States in 1800. Three years later, in 1803, a marine hospital was completed for the port of Boston. It was located at Charlestown, on the Mystic River, an appropriation of $15,000 having been made for the purpose by act of Congress approved May 3, 1802. By this act the money collected for the benefit of sick and disabled seamen was constituted a general fund; and provision was also made for the establishment of the Marine-Hospital Service at New Orleans (not then belonging to the United States). The following is the text:

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[1] In the year 1811 separate hospitals were established for the Navy.

[2] Hamilton, Appleton's Cyclopædia, 1879.

"That the moneys heretofore collected in pursuance of the several acts for the relief of sick and disabled seamen, and at present unexpended, together with the moneys hereafter to be collected by authority of the before-mentioned acts, shall constitute a general fund, which the President of the United States shall use and employ as circumstances shall require for the benefit and convenience of sick and disabled seamen: *Provided*, That the sum of $15,000 be, and the same is hereby, appropriated for the erection of an hospital in the district of Massachusetts.

"SEC. 2. The President is authorized to cause such measures to be taken as, in his opinion, may be deemed expedient for providing convenient accommodations, medical assistance, necessary attendance, and supplies for the relief of sick and disabled seamen of the United States who may be at or near the port of New Orleans, in case the same can be done with the assent of the government having jurisdiction over the port.

"SEC. 3. Required masters of boats, rafts, etc., going to New Orleans down the Mississippi to render true accounts of the number of persons employed on board, and imposed a tax of 20 cents a month for every person so employed, which sum the master was authorized to retain out of the wages of such person.

"SEC. 4. Authorized the President to appoint a director of the Marine Hospital at New Orleans.

"SEC. 5. Authorized the admission of sick foreign seamen into marine hospitals of the United States upon certain conditions, and fixed the rate of charge at 75 cents a day."

The following letters from American State Papers quoted by Supervising Surg. Gen. Hamilton in a paper read at the annual meeting of the National Board of Steam Navigation, held at Cairo, Ill., several years ago, also in his article in Appleton's Annual Cyclopædia, show, as he says, "the state of affairs which rendered action on the part of Congress necessary."

NEW ORLEANS, *August 10, 1801.*

"A great number of American citizens, especially seamen and boatmen from the Ohio, die here yearly for want of a hospital, into which they might be put and taken care of, not that they are refused admittance into the Spanish Poor Hospital, but that building is by much too small for the purpose.

"No public house of any reputation will take them in, and consequently they lie in their ships or boats or get into wretched cabins, in which they die miserably, after frequently subjecting the humane among their countrymen to much trouble and expense. Will not this be an object, sir, worthy the attention of the Government of the United States? And might not a fund be easily established for the preservation of these poor people by imposing a light tax upon every vessel and boat that comes in, as well as upon every seaman and boatman? About 200 vessels have entered here from sea during the twelve months past, and allowing 8 men only to each, it makes 1,600. Perhaps from 350 to 400 boats have come down from the Ohio, etc., during the same time, and allowing 4 men to each, it would make about an equal number of men; a small sum from each, added to something from every vessel and boat would probably produce a capital equal to the exigency.

"EVAN JONES."

E. M. Day, esq., in a letter addressed to the Secretary of State, dated November 8, 1802, said:

"It will readily occur to you, sir, that thousands of our fellow-citizens must soon be employed in navigating the ships and boats which must ever be used as the means of transporting these commodities (those of the western country) from one place to another. Now, sir, when we take into consideration the climate and season of the year when this commerce must be carried on, the risk to our citizens must be multiplied in a high degree. It is well known that the western rivers can not be conveniently navigated into the Mississippi until the breaking up of the frost in the spring of the year. It is then that the great river begins to rise, and it generally remains up until July. The great distance and unavoidable impediments naturally in the way always carry over these commercial transactions to so late a period as to leave the great bulk of those employed in them at or about New Orleans in the sickly season of the year, which, in that low, flat, unhealthy southern climate, is fatal in the extreme to the strong, robust constitutions of our western brethren; hence, many of them fall victims to climate and disease, leaving families and friends at a great distance from them. The want of proper accommodations for sick and infirm seamen and boatmen at New Orleans is another very serious inconvenience our poorer class of fellow-citizens are much subjected to in that place. It is really pitiable to see such numbers of distressed objects as sometimes present themselves to view in the sickly months, who have been left to shift for themselves after their employers have made their markets. Something like an hospital establishment, to be superintended by American physicians, would go a great way to alleviate the distresses of those useful men. I mentioned American physicians because our people are strongly prejudiced against those of the Spanish faculty, and generally not understanding the language they derive little or no benefit from them."

The first U. S. marine hospital at New Orleans was not erected until a number of years later, but provision was made for the care of sick and disabled seamen in the local hospitals as early as 1804, and a physician appointed to look after their welfare, same as had been done originally in Boston, and which is now (since the reorganization of the Service) the custom at the smaller ports of the country, that is to say, where the Service is not large enough to warrant the assignment of a regular medical officer or the establishment of a station of the first class.

For a number of years after the establishment of the Service the expense had to be met out of the fund created by the tax upon seamen, and as the amount collected was not sufficient to meet the demands of the Service, restrictions were from time to time necessary to keep up the expenditures within the available fund. Chronic and incurable cases were excluded from the benefits of the Service and in no case was relief allowed for a longer period than four months.

Patients in some ports were cared for in local hospitals and were farmed out to the lowest bidders, and in places where there were no hospitals "medical charges were restricted to 20 cents a day, with boarding, lodging, nursing, and washing, at $2.50 a week." For districts south of the Potomac an addition of 20 per cent was allowed. The hardships attending the life of seamen and the administration of the fund for their relief from this period, were set forth by the late Supervising Surgeon-General Woodworth in the following language (annual report, 1872):

"It was claimed that the fund was to be considered as auxiliary to the provision made by the municipal authorities, rather than as a full compensation for the relief which was due to the wants of sick and disabled seamen. In view of the inadequacy of the fund a more liberal ruling was impracticable. The administration of the fund on this principle worked the greatest hardships in the new cities and towns which sprang up on the banks of the western lakes and rivers, where few accommodations were to be had for the care of sick strangers left helpless upon their shores. Those who engaged in the commerce of the western rivers were subjected to climatic changes that were to them very pernicious. The numbers who perished in the long descending voyages of the flat-bottomed boats which left the upper waters of the Mississippi and its tributaries in summer and early autumn to find a market for the fruits of their toil at New Orleans were very great. Nothing was more common than for two out of five hands, who generally managed those boats, to die, and it sometimes happened that the whole crew perished from disease, and that the boat with its cargo was left deserted. The steamboats ascending the Mississippi and its tributaries brought up every year a great number of deck passengers, chiefly the sons of farmers returning from their flatboat voyages, many of whom died on board, while others were left on shore at the river towns, helpless and among strangers. The cholera epidemic of 1832 and 1834 added greatly to the catalogue of their ills. Moved by a feeling of common humanity for the large class of our young men who had surrendered the endearments of a life spent at home and united their fortunes with strangers by embarking in the more daring, precarious, and toilsome interests of commerce, a pursuit more than most others beset with temptations to risk of health and life, to recklessness of character and insensibility to future wants, sensible also of the sufferings attendant upon such an improvident life, whole communities, both on the seaboard and in the interior districts, petitioned Congress for additional appropriations and the enactment of laws providing increased facilities for the relief of this unfortunate class. From one port it was reported that no better place could be offered to sick seamen than the warehouses and the deserted tenements along the wharf; from another that they had to be sent to the city almshouse, which was also connected with the penitentiary for common vagrants and petty convicts; and from another the sad story was told that seamen sick with various diseases, cholera, smallpox, etc., were often forced promiscuously into the same chamber, where the dying and the dead were alike neglected."

Beginning in Boston in 1799, the Service was soon extended to the principal ports along the Atlantic coast, and gradually, as Congress made special appropriations for the same, marine-hospital buildings were erected at other ports than those already named. The expenses attending the erection of the original hospitals at Norfolk and Boston were defrayed from the Marine-Hospital fund (the tax collected from seamen for their relief when sick and disabled) in accordance with the law of 1798, which also provided "that when there should be a sufficient surplus after defraying the expenses of temporary relief to seamen, it should be used in erecting marine hospitals." This provision was made probably in view of another provision of the same act, which authorized the President to receive donations of personal property or real estate, and which contemplated a surplus. During the earlier years of the Service there was occasionally a small surplus, more frequently a shortage; and as years went on the expenses were greatly increased and entirely out of proportion to the increase of the collections, and Congress was called upon to make necessary appropriations to meet the difference. These appropriations varied in amounts from $1,000 to $275,000 a year, and up to 1873, when the last appropriation was made, amounted to the sum of $4,830,994.34. The collections during the same period footed up the amount of $7,096,968.89, making a grand total of $11,927,963.25, while the expenditures were $11,639,934.66, leaving at the close of the year 1873 a balance in favor of the fund amounting to $288,028.57.

In the year 1837 (act approved March 3, 1837) Congress appropriated $75,000 for the erection of a marine hospital in the city of New Orleans and for the purchase of lands on which to erect said marine hospital. The President was also authorized to select and cause to be purchased for the use and benefit of sick seamen, boatmen, and all other navigators on the Western rivers and lakes suitable sites for marine hospitals: *provided*, that the number thereof shall not exceed for the Mississippi River, 3; for the Ohio, 3, and for Lake Erie, 1. By this same act the collection of hospital tax was suspended for one year, and instead of said tax the sum of $150,000 was appropriated. A later act (August 29, 1842) confirmed the act of 1837 and authorized the purchase of sites for marine hospitals at Natchez, Miss.; Napoleon, Ark.; St. Louis, Mo.; Paducah, Ky.; Louisville, Ky.; Pittsburg, Pa., and Cleveland, Ohio. An appropriation for the erection of the first marine hospital in Chicago was made by act of Congress approved August 3, 1848, and was located on land adjacent to old Fort Dearborn. The second, the present hospital in Chicago, was erected under authority of act of Congress dated June 20, 1864, and located on the lake shore, about 5 miles north of the harbor. The land was not purchased, however, until 1867. The building was completed and ready for the reception of patients in 1873, and was pronounced the "finest structure of its kind in the country, and far superior to the marine hospitals hitherto constructed." Before this building was completed, however, the Supervising Surgeon-General (the late Dr. Woodworth) "believed that one-fourth of the amount required to complete the building and fit it for occupation would have been sufficient to construct a hospital which would meet the wants of the Service equally well. He then evidently had in mind the pavilion which was subsequently adopted and has been continued up to this time as the style of marine-hospital construction. He was in "favor" of "constructing all the hospitals of wood and destroying them after ten or fifteen years, both as a sanitary and an economical measure, and building new ones in their stead." Fire is no doubt the best and surest antiseptic, but in these days of medical progress less heroic measures answer every purpose, and if buildings are properly constructed, drained, and ventilated the torch need never be applied.

The erection of the marine hospital at Detroit, Mich., was authorized by an act of Congress dated August 4, 1854. This same act also made appropriations for the construction of marine hospitals at Burlington, Iowa, Pensacola, Fla., and for the second hospital at New Orleans. The marine hospital at Detroit is a 3-story and basement solid brick building, constructed somewhat after the Mills style of architecture, except that the ground plan is in the shape of the letter T instead of H, and differs in this respect from all, or nearly all, other marine hospitals, the plans of which were drawn by Robert Mills, architect, in the year 1837, and followed by the Government, without material change, for a period of about thirty years, or until the construction of the imposing structure previously referred to, designed by the late A. B. Mullet, and located in this city (Chicago).

The Marine-Hospital Service on the Pacific coast was first established at San Francisco in 1851 (the contract system), and a U. S. marine hospital was in use at that port in 1854. It was large and well built, but was injured by an earthquake in 1868. The contract system was then resumed and continued until the completion of the present pavilion hospital. Besides the places already named, hospitals were located before the reorganization of the Service at Mobile, Ala.; Charleston, S. C.; Portland, Me.; Ocracoke, N. C.; Evansville, Ind.; Vicksburg, Miss.; St. Marks, Fla.; Burlington, Vt.; Wilmington, N. C.; Galena, Ill., and Port Angeles, Wash. Most of these buildings were large, substantial structures, erected at great expense, and some of them were sold afterwards at a great reduction, especially those built at places where they were not needed at all, as for example at Paducah, Ky.; Burlington, Iowa; Galena, Ill., and Burlington, Vt. During the war of the rebellion many of the marine hospitals, North and South, were used as military hospitals, and the hospitals at Norfolk and Boston were in similar use during the war of 1812.

The Marine-Hospital Service was reorganized in pursuance of an act of Congress approved June 29, 1870.

"An act to reorganize the Marine-Hospital Service and to provide for the relief of sick and disabled seamen.

"*Be it enacted, &c.*, That from and after the first day of August, eighteen hundred and seventy, there shall be assessed and collected by the collector of customs at the ports of the United States from masters or owners of every vessel of the United States arriving from a foreign port, or of registered vessels employed in the coasting trade, the sum of forty cents per month for each and every seaman who shall have been employed in said vessel since she was last entered at any port of the United States, which sum the said master or owner is hereby authorized to collect and retain from the wages of said employees.

Section 4 of this act required that "all moneys received or collected by virtue of this act shall be paid into the treasury like other public moneys, without abatement or reduction," and appropriated all moneys, so received, for the expense of the Marine-Hospital Service, and to the credit of the marine-hospital fund.

SEC. 5. That "the fund thus obtained shall be employed, under the direction of the Secretary of the Treasury, for the care and relief of sick and disabled seamen employed in registered, enrolled, and licensed vessels of the United States."

SEC. 6. "*And be it further enacted,* That the Secretary of the Treasury is hereby authorized to appoint a surgeon to act as supervising-surgeon of Marine-Hospital Service, whose duty it shall be, under the direction of the Secretary, to supervise all matters connected with the Marine-Hospital Service and with the disbursement of the fund provided by this act, at a salary not exceeding the rate of two thousand dollars per annum, and his necessary traveling expenses, who shall be required to make monthly reports to the Secretary of the Treasury."

The office of supervising surgeon was first filled in April, 1871, by the appointment of Dr. John M. Woodworth, of Illinois. The work of reorganization was commenced at once, and had so far progressed by the end of the fiscal year 1872 that the supervising surgeon (Dr. Woodworth), in his annual report for that year, was enabled to show a marked increase in the facilities for affording relief, a considerable decrease in the per diem cost for the care of each patient, and an actual saving to the Government of $56,819.31, as compared with the preceding year. In the original work of reorganization, or rather in anticipation of the law reorganizing the Service and before a supervising surgeon was appointed, the Secretary of the Treasury received valuable aid from Surg. John S. Billings, of the Army (the distinguished chairman of this section). Twelve thousand three hundred and two sick and disabled seamen were furnished hospital relief during the year 1872, and by a system of out-door or dispensary relief inaugurated this year, 854 seamen were furnished medicine, making a total number of 13,156. It need hardly be added that the Service soon became self-sustaining and that no appropriation was received or required after the year 1873, except for the erection of new hospital buildings. The work of reorganization had now fairly begun. Candidates, after passing a satisfactory examination before a board of surgeons, were appointed surgeons and assistant surgeons by the Secretary of the Treasury on the recommendation of the supervising surgeon. Hospitals were divided into two classes, viz: Class 1, U. S. marine hospitals; class 2, local hospitals, where seamen were received at rates authorized by the Department.

Provision was also made for the care of sick and disabled seamen at ports where there were no hospitals. One medical officer was assigned to duty at each hospital (Class 1) as surgeon in charge, and when an assistant surgeon was also assigned at the same station one of the two was required to be on duty at the custom-house during business hours to examine applicants for admission to hospital, to issue a permit if necessary, to prescribe for cases not requiring treatment in hospital, and at the same time to guard the Service against the irregularities and abuses which had formerly crept in and made the reorganization necessary. At the hospitals of Class 2, where the service was large enough to warrant the assignment of a medical officer, his duties were essentially the same as if on duty at the custom-house office or dispensary of a station of Class 1; and he was also required to inspect the hospitals where seamen were admitted, and to supervise all matters relating to the service at the port. At the smaller ports the customs officer was authorized to provide for the care of sick seamen by arrangement with a local physician, or to furnish transportation to the nearest hospital where provision was made for relief. The surgeon in charge of a marine hospital was given authority over all officers and employés of the hospital, and he was empowered to enforce regulations for the management of the hospital, subject to the approval of the supervising surgeon. He was held responsible for the proper and economical administration of the hospital under his charge, and for the care and preservation of the building, furniture, and stores, but he was not entitled to any stores (subsistence supplies) for himself. He was required, as he is now, to supply subsistence for himself, family, and household help. The steward and other employés were, as they are now, subsisted by the hospital. The compensation of all officers and employés of the Service (except the supervising surgeon, whose salary was fixed by act of Congress) was fixed by the Department.

Regulations covering the foregoing and all other requirements of the Service and duties of medical officers were issued in book form during the latter part of the year 1873, and these regulations have served as the basis and model upon which all subsequent regulations, made necessary by later acts of Congress or Department decisions, have been framed. Within three years after its reorganization the work of the Service began to attract attention from abroad. The London medical journals were profuse in their praise of this peculiarly American institution. The Lancet recommended that "a leaf be taken out of the book of the Marine-Hospital Service of the United States," and remarked that "Our transatlantic neighbors, ahead of us in many things, are most decidedly in advance of the old country in providing for the care of their sick sailors."

In the year 1875, just four years after the reorganization of the Service, Congress enacted (act approved March 3, 1875): "That hereafter the salary of the Supervising Surgeon-General of the United States Marine-Hospital Service shall be paid out of the marine hospital fund, at the rate of $4,000 per year; and the Supervising Surgeon-General shall be appointed by the President, by and with the advice and consent of the Senate." In another act, approved the same day, provision was made for the care of seamen of foreign vessels at such rates and under such regulations as the Secretary of the Treasury may prescribe.

This act also provided for the increase of compensation before mentioned for the Supervising Surgeon-General. It was during the fiscal year, too, that the Department issued the first circular letter to United States officers, defining their duties with reference to quarantine and public health. The medical officers of the Marine-Hospital Service were especially directed to inform themselves fully as to the local health laws and regulations based thereon, and in force at their respective ports and stations, and strict compliance with such laws, and prompt assistance in the enforcement of the same when requested by competent authority, were enjoined. The quarantine law under which these instructions were issued was passed as far back as 1799 (R. S., 4792). It was during the year 1875 also that the first marine hospital of the pavilion style of architecture was opened. This hospital is located in San Francisco, and is now in active operation. Similar hospitals have since been built and are in use at New Orleans; La., Memphis, Tenn.; Cincinnati, Ohio; St. Louis, Mo.; Cairo, Ill.; Baltimore, Md., and Evansville, Ind.

Hospitals of the older or block style are still in use at Boston, Mass.; Portland, Me.; Louisville, Ky.; Wilmington, N. C.; Mobile, Ala.; Cleveland, Ohio, and Detroit, Mich. The present hospital at New York (leased from the Marine Society) is also an old-style building. Some of the old block hospitals have had bad histories, but they are now, thanks to improved plumbing and better administration, in good sanitary condition, and the results of treatment, medical and surgical, compare very favorably with the best results in the pavilion hospitals. The sanitary condition of the old hospital at Detroit, for example, was so bad only a few years ago that the medical officer then in charge recommended that permission be granted to admit and treat all surgical cases in one of the local hospitals or in rented rooms, so as to avoid the invariable complication of erysipelas. Suffice it to say that for the last four years not a single case of contagious or infectious disease or wound infection of any kind originated in this hospital, notwithstanding the fact that more surgical operations have been done than ever before. And this is practically the report of improvement at all the older hospitals where modern methods and "the next thing to Godliness" is the rule.

It is not the purpose of this paper to discuss the general question of hospital construction, nor by any means to discourage the erection of pavilion marine hospitals. The pavilion plan is probably the best, all things considered, that has yet been devised. But if the older style hospitals were as bad to-day as they were reported to be when the pavilion was introduced, they should be destroyed forthwith. As a matter of fact they are not so bad, and as before intimated, results considered, they must now be pronounced good.

Differences of opinion as regards the relative merits of different style hospitals are to be expected. Surg. John Vansant, who has had extensive experience in hospital work, expressed his views a number of years ago as follows:[1]

"I have to say that I was once a strong advocate of the pavilion plan for all hospitals, but I have now modified my views, though I have not positively decided what other plan I would substitute for the pavilion; in time of war the pavilion plan is undoubtedly the best, for then there are as many nurses and other attendants, as well as officers, money and supplies of all sorts as can be wished for, but in times of peace, and for a civil hospital, I think the pavilion plan is more expensive and more difficult to administer. It would be less comfortable in a cold climate or in winter, and on the score of healthfulness or ventilation, etc., I doubt if it has any advantages over a two or three story hospital. I think, as a general thing, the wards of our hospitals are too large; I prefer a greater number of smaller rooms."

A few days ago I addressed a letter to Surg. Henry W. Sawtelle, of the U. S. Marine-Hospital Service, requesting his opinion on the merits of pavilion hospitals as compared with the block style of marine hospitals. The following is a copy of his remarks sent to me by return mail:

"As hospitals are for the care and treatment of the sick and wounded, the merits of the various hospitals should be decided upon the results of treatment as shown by their records, assuming, of course, that the administration and care of the hospitals have been careful and efficient. Unfortunately, I have no such data at hand, and I shall therefore content myself by giving my views, based upon experience at the different hospitals, without reference to statistics. I have served at one pavilion hospital, the one at San Francisco, and at several of the older or block style, namely, St. Louis, New York, Detroit, Portland, Me., and Boston. Ventilation for these hospitals is obtained mainly through the windows and doors, and the appointments generally are below the standard of requirements of hospital buildings according to modern ideas. From these remarks it will be seen that both styles are open for improvement. In regard to the old hospitals of the Service, their bad histories are matters of record—outbreaks of erysipelas, gangrene, and pyæmia were frequent prior to the reorganization of the Service in 1871 and for some time thereafter. Such a record was undoubtedly due very largely to the fact that for many years the Marine-Hospital Service had been under control of the politicians, and political doctors, who happened to be friends of the collectors of customs or political allies of sufficient importance to attract the attention of the appointing power, were the medical heads of the hospitals, who paid but little attention, comparatively, to their duties, while the collectors of customs were the custodians of the hospital buildings, and all matters pertaining to the Service passed through their hands for approval or disapproval. It is not wonderful, then, considering such a history, that at the date of reorganization in 1871 the marine hospitals throughout the country which were of the block plan were found to be in such an infected condition that the result of treatment was unsatisfactory and the percentage of deaths large. Cleaning up old hospitals means prevention of disease in the same sense that proper environment and personal cleanliness mean prevention of cholera. Hence it will be understood that after a general cleaning and repairing of the old hospitals it was observed by the medical officers that the success attending their treatment of patients increased correspondingly. After about twenty years' service in these hospitals, including three and one-half years at the San Francisco hospital, which, as before stated, is of the pavilion plan, my experience in relation to the success of treatment of patients in the old-style hospitals, as compared with the pavilion hospital, is about the same. For example, at the Boston hospital, which was built in 1859 and which has a bad history, not a case of erysipelas has developed in the wards during the past two years, and no complications have succeeded surgical operations. Primary union after operations is a common occurrence, and I may say that the same is true at other hospitals of similar design where I have served. No greater success was observed at the pavilion hospital. In conclusion, I may say that for economical reasons and convenience of management I am in favor of pavilion hospitals for the Service, though I am free to admit that in case expense is no object, hospitals constructed on block plan and provided with proper ventilation and all modern appointments, would meet all the requirements for the successful treatment of the sick and injured in as large a measure as upon any other plan."

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[1] Annual Report Marine-Hospital Service, 1883.

Supervising Surgeon-General John M. Woodworth, who had been chief officer of the Service from its reorganization, died in the month of March, 1879, and Surg. John B. Hamilton, who had been ordered to Washington for temporary duty in charge of the bureau during the illness of the chief officer, was soon thereafter appointed by President Hayes to the office made vacant by the death of Dr. Woodworth.

In 1879 the regulations governing the Service were revised. Several of the provisions contained in the original regulations of October 1, 1873, had since the latter date been repealed or modified by circular, etc., and new paragraphs were added in conformity with the law passed in 1875.

During the year 1878 a law was passed establishing a national quarantine, and the Supervising Surgeon-General of the Marine-Hospital Service, under the Secretary of the Treasury, was empowered to frame regulations governing quarantine, but no appropriation was made to carry the act into effect. During the same year the terrible epidemic of yellow fever occurred in the Mississippi valley, and in February following Congress passed another law (act approved February 3, 1879) establishing a National Board of Health. The latter act embodied all the essential provisions of the former, but changed the executive authority by substituting a board (national board) composed of seven members, and carried with it a large appropriation. The act of 1879 was limited to a period of four years, and upon its expiration the law of 1878 was revived and became operative by means of the contingent fund appropriated by Congress to be expended by the President of the United States, in his discretion, in preventing the spread of epidemic diseases and in maintaining quarantine at points of danger. This discretion was used by the President as above indicated, and the work contemplated by the appropriation act was performed through the agency of the Marine-Hospital Service in aid of State and local boards of health, and in accordance with the act of April, 1878.

It is hardly necessary to add that the precedent thus established has been followed up to this time, or until the passage of the recent act (approved February 15, 1893), "granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service."

In thus briefly reviewing the history of the national quarantine service and the provisions contained in the several acts, the remarks of the late Supervising Surgeon-General Woodworth must not be forgotten. After reading a paper before the International Medical Congress in Philadelphia in 1876 (two years before the enactment of the law of 1878), he said:

"From what has preceded, the following conclusions appear to be justified: (1) The supervision of ocean travel ought to be directed to securing good sanitary conditions for vessels at all times, out of, as well as in, port. (2) A system of port sanitation should be adopted and administered for each country or place separately, and should be modified in particular cases by taking into account the liability of the port to infection, the period of incubation of the disease, the length of time consumed in the voyage, and the measures enforced by the vessel en route. (3) In some countries the detention of passengers and crews of ships hailing from infected ports is warranted, but for such time only as is necessary to complete the period of incubation of cholera or of yellow fever, counting from the date of departure from an infected port or of landing from an infected vessel. In no instance should passengers or sailors be held for observation on board an infected vessel, and such vessel should not be detained beyond the period required for inspection and for thorough disinfection and cleansing. (4) Recognizing the fact that the morbific causes of infectious diseases may sometimes elude the most vigilant sanitary supervision of shipping, the importance of wisely-directed internal sanitary measures can scarcely be overestimated. (5) As far as America is concerned, it is desirable that prompt and authoritative information should be had of the shipment of passengers or goods from districts infected with cholera or yellow fever, thereby insuring the thorough disinfection of infected articles. (6) The endemic homes of cholera and yellow fever are the fields which give the greatest promise of satisfactory results to well-directed and energetic sanitary measures, and to this end an international sentiment should be awakened, so strong as to compel the careless and offending people to employ rational means of prevention."

These views of Dr. Woodworth were recognized in the act of 1878. In fact, the said act is sometimes called the Woodworth law. But as before indicated, the law of 1879 changed the executive authority from the Supervising Surgeon-General to the National Board. Under these laws national quarantine stations were established at several points on the Atlantic coast, and inspection stations at various times, when necessary, were maintained at points of danger on the frontier. Sanitary inspectors were also stationed at Havana and Vera Cruz to give prompt notification relative to the sailing of vessels bound for the United States, so as to aid in the prevention of the introduction of yellow fever.

At London and Liverpool inspectors were appointed to give timely information of the shipment of Egyptian rags or of any other articles sent through those ports from infected localities. Inspectors were also appointed at the principal European ports to inspect vessels and emigrants bound for the United States.

In 1885 the regulations of the Marine-Hospital Service were again revised. A section for the government of national quarantines was added, and the whole was approved by the Secretary of the Treasury and by the President of the United States. In January, 1886, Supervising Surg. Gen. Hamilton resumed the publication of the Weekly Abstract of Sanitary Reports, as required by the act of 1878. During the same year, or the year preceding, he recommended "that the national quarantine stations be made permanent, and that they be equipped with all the necessary appliances known to modern sanitary science for the treatment of infected vessels and their cargoes, so that not only may immunity from the importation of contagious diseases be secured at those stations, but such security be had with the least possible obstruction to commerce." In 1887 he recommended the establishment of a station on the Pacific coast. In 1888 a law was passed (approved August 1) making the national quarantines on the Atlantic and Gulf coasts permanent institutions, and providing for the establishment of three stations on the Pacific coast. An appropriation of $500,000 was made to carry out the purpose of this act. In 1890 an act was passed to prevent the introduction of contagious diseases from one State to another and for the punishment of certain offenses.

In June, 1891, Supervising Surg. Gen. John B. Hamilton, under whose administration of the Marine-Hospital Service all the national quarantine work up to date had been performed (except during the active period of the National Board of Health), resigned his commission as Supervising Surgeon-General, and Surg. Walter Wyman, then on duty in the bureau as chief of the quarantine division, was appointed by President Harrison to be Supervising Surgeon-General in place of John B. Hamilton, resigned. Dr. Hamilton was at the same time, and by his own request, reappointed by the President to be a surgeon in the Marine-Hospital Service, and assigned to duty at Chicago, Ill. The latest and most comprehensive legislation affecting the Marine-Hospital Service, and, of course, through it the national quarantine service and the country at large, is contained in the act (approved February 15, 1893) granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service. Under the provisions of sections 2, 3, and 4 of this act, medical officers of the Marine-Hospital Service have been detailed to serve, and are now on duty, in connection with the consulates at various foreign ports, and from them all necessary information is received relative to the sanitary condition of vessels, cargoes, crews, and passengers, about to depart for the United States.

By this means the ordinary consular bill of health is made to be a certificate of actual observation by a responsible officer whose sole duty is to aid in the prevention of the introduction of contagious diseases into the United States.

New quarantine regulations have been framed by a board of officers under the direction of Supervising Surg. Gen. Wyman, who convened the board for the purpose; and the said regulations have been promulgated by the Secretary of the Treasury. A very large appropriation is now available and the Supervising-Surgeon-General, under the direction of the Secretary of the Treasury, is making extensive improvements at all stations, and in various ways increasing the efficiency of the Service. At New York, Boston, and New Orleans the maritime quarantines are owned and operated by the State or municipality, but the law requires the Supervising Surgeon-General, under the direction of the Secretary of the Treasury, to cooperate with and aid State and municipal boards of health in the execution and enforcement of the rules and regulations of such boards and in the execution and enforcement of the rules and regulations made by the Secretary of the Treasury to prevent the introduction of contagious or infectious diseases into the United States; * * * and also requires that all rules and regulations made by the Secretary shall operate uniformly and in no manner discriminate against any port or place * * * and at such ports and places, within the United States, where the quarantine regulations exist under the authority of the State or municipality which, in the opinion of the Secretary of the Treasury, are not sufficient to prevent the introduction of such diseases into the United States, the Secretary shall, if in his judgment it is necessary and proper, make such additional rules and regulations as are necessary * * * but if the State or municipal authorities shall fail or refuse to enforce said rules and regulations the President shall execute and enforce the same, * * * and may detail or appoint officers for that purpose.

It is to be hoped that the relations between the national and the State quarantine will always remain within the bounds of cooperation and aid and that both may strive how best to work and agree, until such time as the combined efforts may result in better understanding, and above all in the accomplishment of the objects sought to be accomplished by modern quarantine. An observance of the minimum requirements of the regulations will be a sufficient guard against any conflict of authority. Medical officers of the Marine-Hospital Service are also, under the laws of March 3, 1891, and March 3, 1893, required to serve as medical inspectors in the immigration service. The proper performance of this duty must also of necessity result in valuable aid to public health.

From the foregoing compilation and remarks it will be observed that the Marine-Hospital Service covers a large field. The Service proper is a peculiarly American institution. It was originally established and is at present maintained for the benefit of the sailors of the mercantile marine. From its beginning in 1798 until 1884 every seaman employed on a vessel of the United States contributed to its support by the payment of a small tax, at first at the rate of 20 cents a month, and later 40 cents a month, while actually employed. In 1884 by an act of Congress the hospital tax was abolished and in its stead the tonnage tax, received from foreign vessels, was made available for the ordinary expense of the service (for the care and treatment of sick and disabled American seamen). In addition to the treatment in hospital a system of outdoor or dispensary relief was inaugurated when the Service was reorganized, and this has gradually increased year after year until there are now about 40,000 cases furnished outdoor relief annually, while the hospital cases number about 16,000. During the year 1892 there were 37,588 of the former and 16,022 of the latter.

The physical examination of candidates for appointment in the Revenue-Cutter Service, and of officers for promotion in that Service, are made by medical officers of the Marine-Hospital Service. Applicants for employment as keeper or surfman in the U. S. Life-Saving Service are also examined as to their physical condition and, if appointed, instructed in methods for the resuscitation of the apparently drowned. Pilots must also pass an examination before a medical officer of the Marine-Hospital Service as to their ability to distinguish the colored lights used at sea.

The regular corps of the U. S. Marine-Hospital Service consists of the Supervising Surgeon-General, surgeons, passed assistant surgeons, assistant surgeons, acting assistant surgeons, hospital stewards, and hospital attendants. The Supervising Surgeon was made a commissioned officer in 1875 and the title of his office was changed to Supervising Surgeon-General. In 1889 statutory provision was made for the appointment of all subordinate medical officers, the requirements being essentially the same as had previously governed by regulation and under which an average of about 80 per cent had been rejected. The following is the text:

"Medical officers of the Marine-Hospital Service of the United States shall hereafter be appointed by the President, by and with the advice and consent of the Senate; and no person shall be so appointed until after passing a satisfactory examination in the several branches of medicine, surgery, and hygiene before a board of medical officers of the said Service. Said examination shall be conducted according to rules prepared by the Supervising Surgeon-General and approved by the Secretary of the Treasury and the President.

Sec. 2. "That original appointments in the Service shall be made to the rank of assistant surgeon; and no officer shall be promoted to the rank of passed assistant surgeon until after four years' service and a second examination as aforesaid; and no passed assistant surgeon shall be promoted to be surgeon until after due examination: *Provided*, That nothing in this act shall be so construed as to affect the rank or promotion of any officer originally appointed before the adoption of the regulations of 1879; and the President is authorized to nominate for confirmation the officers in the Service on the date of the passage of this act."

Medical officers are subject to change of station as the exigencies of the Service may require, and are not allowed to remain at any one station for a longer period than four years, unless specially authorized by the Department. Acting assistant surgeons are appointed by the Secretary of the Treasury upon the recommendation of the Supervising Surgeon-General. They are not usually subject to change of station. Hospital stewards are appointed to the general service by the Secretary of the Treasury, after passing a satisfactory examination before a medical officer of the Service. Hospital attendants are employed by the medical officer in charge of a station, subject to approval of the Department. The different details for attendants are engineer, fireman, cook, nurse, watchman, night nurse, ambulance driver, gardener, launderer or laundress, general-service men in dining room and about buildings and ground, and dispensary attendant. The Marine-Hospital office or dispensary is usually located in or near the custom-house. Medical officers are required to visit patients in hospitals at least once a day, and oftener, if necessary, to make a general inspection at least once a week, and to supervise all matters pertaining to the Service of the station of which they are in command. At the larger stations two or more medical officers are usually on duty; at the smaller hospital stations only one; and at stations where there are no hospitals belonging to the Government, but where the Service is large enough to warrant it, one medical officer is assigned to duty and placed in charge of all Service matters at the port. At the still smaller stations acting assistant surgeons are appointed; they are also sometimes designated sanitary inspectors, if required for duty of that kind, and occasionally when additional medical services are needed and eligible candidates are not available for appointment as assistant surgeons, acting assistants are appointed temporarily to assist the medical officer at a station. Internes are appointed by the medical officer subject to approval of Department. The latest regulations governing the Marine-Hospital Service proper were issued in 1889. New regulations for the government of national quarantine stations have been issued since the passage of the law and are now in active operation.

The Supervising Surgeon-General's Office is a bureau of the Treasury Department. It is located in Washington, D. C., at present in the Butler Building on Capitol Hill.

The officers and employés now on duty in the Bureau are the Supervising Surgeon-General, two surgeons (one detailed as chief of the purveying division, and one chief of the quarantine division); two passed assistant surgeons (one in charge of the bacteriological laboratory, and one as executive officer and attending surgeon); one assistant surgeon, assigned to duty on the Weekly Abstract of Sanitary Reports; one chemist, and the necessary clerks, messengers, and laborers. The medical officers in the Bureau are detailed from the corps by the Supervising Surgeon-General and are subject to orders the same as if on duty at any other station.

The writer served as chief of the purveying and quarantine division from January, 1885, to November 26, 1888.

EPILEPSY—TREPHINING.

By Passed Assistant Surg. W. P. McIntosh.

J. F.; age, 33; nativity, Austria; was admitted to the U. S. Marine Hospital, port of Boston, Mass., with following history:

About two years ago he began to have "spells," in which he would faint away for periods of from two to four minutes. Says he had no muscular twitchings and was able to resume work immediately after one of these attacks. The right arm and right side of chest had a feeling of slight numbness. These "spells" came only about once or twice in two or three months and became progressively worse until he had them as often as twice in one day. Then he would improve and go four or five weeks without an attack. They now begin with twitching of right side of the face and right hand. During period of unconsciousness he will sometimes bite his tongue. Says the sight of right eye is impaired and is becoming progressively worse. His memory is also failing. Right side of face and right side of body growing weaker. Muscles are less under control of will. Sense of touch and thermal sense are obtunded on right side. There is no history of any specific cause and no history of blow on head. Neither scalp nor skull show any sign of injury. Patient is getting progressively worse. Right side of face and right arm and hand are most affected. The attacks, as far as he can say, begin by twitching of muscles at these points. Patient says he generally has a premonition of an impending attack—a feeling of lassitude, heaviness, nervousness, etc., for a day or two beforehand.

Having given the bromides variously, singly and combined, large and small doses, and antispecific treatment having been resorted to, as well as some of the remedies for which favorable results have been more recently claimed, including hydrastine, the conclusion was reached that, although no traumatic cause could be traced, operative procedure held out the only prospect of relief.

February 3.—Having had his bowels cleaned out the night before, his head shaven, and measurements made so as to indicate, according to Broca, Horsley, and Schäfer, the convolutions in front of and behind the fissure of Rolando, these being the motor areas—patient was etherized. A horseshoe-shaped flap was raised, the periosteum pushed aside, and the skull opened with an inch trephine at a point corresponding to centers for face and arm. Immediately upon removing the button, the brain bulged into the opening, indicating increased intra-cranial pressure. The brain was yellowish in color, and what seemed to be the remains of a small infarct were apparent under the dura mater. As but slight additional danger is incurred by opening the dura, this membrane was carefully incised, but owing to injury of an artery (branch of middle meningeal) in dura, and hemorrhage from a large vein on the brain surface in the effort to detach the infarct, it was not deemed best to enlarge the opening in the skull. Vessel in dura was ligated and hemorrhage from brain controlled by hot water and packing with iodoform gauze. Packing left in for seventy-two hours and then removed. No rise of temperature and no pus in or about wound. The only apparent good accomplished was improvement of speech, which lost its hesitating, stuttering way, and was more distinct. The shaking and trembling of muscles of arm and hand much improved. During first two or three days, while the dressings were pressing on the brain, the aura epileptica seemed to have increased in frequency, though modified in force and duration. After removal of dressings no distinct aura occurred.

On February 23, twenty days after the operation, patient had slight aura in evening, but only lasted a few seconds, and he did not lose consciousness.

On February 25 there was a slight rise of temperature (37.4 c.). With this exception here was no untoward symptom after operation. Discharged improved May 8, 1893.

EMPYEMA OF THE LEFT PLEURA—EXSECTION RIB—RECOVERY.

By Passed Assistant Surg. W. P. McIntosh.

A. W.; male; age, 20 years; native of England. Admitted to Marine Hospital, Boston, Mass., February 8, 1893. Patient stated that he had suffered with severe cough with copious expectorations of frothy mucus for past month; cough so severe at times as to cause vomiting. Complains of pains in lower part of chest. For past two weeks has suffered from cold night sweats. Does not complain of rigors or chills, a fact somewhat surprising, as I have observed that in all forms of acute pleurisy, whether rheumatic, metapneumonic, tubercular, or malignant in origin, the intermittent form of fever (chill, fever, sweating), with three distinct stages occurring daily, is so frequent as to be almost pathognomic, provided the malarial form of fever, for which it is not infrequently mistaken, can be excluded. The late Prof. Lynch, of Baltimore, first called my attention to this fact. I do not allude to the rigors attending pus formation, and I speak particularly of this symptom as one not pointed out by most text books on practice. The body temperature was normal at this time; there was dullness at apices of both lungs, bronchial breathing, and a few mucus rales in left axillary region. In a few days, dullness gave way to flatness over left side, inferior portion; no friction sound, as exudation stage had begun. Axillary temperature, 39.4°. Hot applications made to chest.

February 20.—Aspirated left side, withdrawing about 750 cubic centimeters serous fluid. This gave relief; temperature fell, but rose again on 21st; for a week there was no change, temperature rising in evening, falling in morning.

March 2.—Temperature again 39.4°; repeated aspiration, but very little fluid removed; still temperature dropped to normal and continued so to 9th, when it again rose, fluctuating as before for another week, when it again reached 39.4°. At this time dullness, verging into flatness, existed on left side from third to seventh ribs. Having aspirated twice, it was deemed best to make an opening for drainage and irrigation.

March 18.—Patient was etherized and an inch of sixth rib was excised in axillary region. Surg. Sawtelle suggested cutting rib with bone forceps, which was done, thus avoiding artery and nerve, which were left uninjured. The advantage noted of sparing artery and nerve and avoiding hemorrhage is decidedly in favor of use of forceps to cut rib, a proceeding advisable in young persons, but in the aged the chain saw would probably be best, owing to brittleness of bones. One thousand five hundred cubic centimeters of fibro-purulent exudation removed. The exudate contained large quantities of flocculi and pseudomembrane, stringy pieces of membrane so large as to utterly preclude the idea of obtaining relief through aspiration needle or canula. Before allowing the cavity to empty itself it was deemed advisable to pump in a quantity of fluid to prevent syncope, allowing this to mix with and flow out gradually with the purulent exudate, after which the cavity was thoroughly irrigated and a drainage tube inserted. The cavity was irrigated daily with boracic-acid solution, alternated every four or five days with douches of hydrogen-peroxide. The temperature fell to normal the same day that the purulent exudate was evacuated. Although this exudate seemed to be the characteristic effusion of true metapneumonic pleurisy, the thicker and more purulent appearance of the pus, as well as the failure of aspiration to effect any permanent good, would indicate the later development of either staphylococci or streptococci.

Patient made an uninterrupted recovery and was discharged April 23, 1893. The chest wall had slightly collapsed, but there was no sinking of shoulder.

INCURABLE AND TUBERCULOUS CASES.

By Passed Assistant Surg. J. O. Cobb.

The great and increasing number of incurable and tuberculous patients on hand in the hospitals of the Service calls for some action by the Government by which these cases can be removed from the various hospitals and placed under one command and under favorable climatic conditions.

The hospital chronic is the bane of every officer's existence, not so much because he is incurable, as the many difficulties encountered in properly administering to a ward where these patients are treated with other cases. All of us know how hard it is to maintain discipline with these seamen, for say all the good of Jack Tar that we may, he is nevertheless a "lawyer," and if his tongue is not paralyzed he will be sure to use his influence in raising disturbances among the recent patients, and being an old timer he is looked up to by the others as a leader.

The chronic knows that he is incurable and that the officer can not or will not discharge him, because he is helpless, and this increases his natural propensity to talk. Another thing; the sailor believes that he has a property interest in the Service because he once paid hospital dues, believing that the Service is now conducted on the accrued funds of those dues, for it is a popular belief that $20,000,000 have accrued in the Treasury. With these ideas in his head it is easy to understand why it is so hard to deal with the chronic case.

It was not intended originally to care for seamen that were hopelessly incurable. It was intended to care only for those immediately sick or injured in the line of duty, and if such injury or sickness were not relieved in ninety days, the authorized period of treatment, then the officer in command could recommend a further extension, such recommendations being tacitly understood by the Department to mean that a further treatment might benefit the patient enough to cure him and allow him to return to his vocation; but if the seaman was known to be hopelessly incurable then he was to be discharged. The Government never contemplated caring for seamen that had become chronics or cripples, and the Service was to be one of expediency for those taken sick or injured in the "immediate" line of duty, and was not for the purpose of furnishing a home for seamen, however needy they might become.

That was the original intention, but such, however, is not the actual condition. Go into any hospital in the Service and we are confronted by chronic patients who can not be cured and whom we can not discharge. We can not discharge chronic patients for many reasons, principally because there is no place provided for them, and the local authorities will not receive these incurables and allow them to become charges of the city, county, or State, nor can we blame them. We can not make local authorities understand that the marine hospital is not a home and never was intended as such. Knowing that the man will not be received at any other institution, we can not be inhuman enough to send him out when he has no possible means of support.

The question naturally arises, what is to be done? These incurables are now Government charges, and increasing so rapidly that some place should be selected as a home for them. It must be done sooner or later, and the economy can not be questioned. It would be beneficial in all respects, to the patient and to the hospitals, to have these cases removed and placed under one command and under favorable climatic conditions.

The Service is confronted with the question of properly dealing with incurables and cripples, for they are on hand and must be attended to now as well as in the future. I do not mean to infer that these cases are in the hospital by choice, but on the contrary they are Government charges because of the hardships induced by their calling. Long voyages kill many sailors and make many hopelessly incurable cases. The Bering Sea fleet each year adds a great many incurables to the already large number in the hospitals on the Pacific coast, and there are several of these in this hospital (Port Townsend) at the present time, with no possibility of ever getting well.

TUBERCULOUS CASES.

Tuberculosis is a disease that must be specially dealt with under the most favorable conditions, and certainly such conditions can not be found in the general hospital.

The great number of tuberculous cases demands some prompt action by the Government to relieve the hospitals as well as to move the patient to a locality favorable for his recovery. The general hospital is not the proper place to treat these patients even though there were room enough to isolate them. For climatic conditions, also, the various hospitals situated in different parts of the country are not conducive to the comfort or the eventual recovery of these cases. As an actual fact nearly all seamen with tubercle of the lungs die. These cases are discouraging to treat even in an equable climate, but far more so when the climatic conditions are unfavorable, and nearly every station in the Service is unfavorably situated in this respect. To emphasize the fact of the great fatality of the disease more strongly, take the Service statistics for an average year, say 1890, and we find that 756 cases of tubercle were treated, 2 recovered (the 2 recovered were local tuberculosis), 327 improved, and 113 died (20 per cent), 86 being on hand at the end of the fiscal year. That is a large percentage of deaths, too large, and these statistics are even then unreliable to this extent—many of the cases reported as "improved" finally return or go elsewhere and are recorded as new patients, while, in fact, they are old ones. The same case goes out "improved," tries to work, gets worse, goes into another hospital, is reported as a new case, possibly goes out again "improved," and so on until he finally dies. This is the average history of the consumptive patient. I should say, that taking into consideration this fact, the percentage of deaths yearly is nearer 35 than 20 per cent. My experience has been that nearly all of these cases die in the hospital, finally. They may get better and return to their vocation temporarily, but sooner or later they return or go to some other hospital.

Now aside from the question as to whether tuberculosis can or can not be cured even though it were treated in hospitals in a mild climate, and aside from the known danger of infection, the general moral effect of removing infected cases can hardly be questioned.

It would be well to have two hospitals in the Service for the care of incurable and tuberculous cases. One of these institutions should be in the East, either in southern Georgia or Florida, and the other in the West and in southern California. The situation should be in some quiet locality, and the buildings for the chronic cases constructed on the pavilion plan, while those for consumptives built on the cottage plan to allow of classification and segregation of cases.

This leads up to another vital point with the Service. The Service is and must continue to be actively progressive. We have the control of quarantine matters and we must take the initiative in the study of preventive medicine in this country. Tuberculosis being the most fatal of all the infectious diseases should be specially studied and treated. A competent pathologist and bacteriologist should be in command of these stations and an untiring and unremitting investigation carried on to find a cure, and if not a cure, the most reliable method of treatment.

The Army and Navy have a hospital at Hot Springs, for the specified purpose of treating certain chronic diseases occurring among the personnel of the two services, and it has been demonstrated that the plan was good in every way, especially in an economical sense. Many of their cases are cured and return to duty in their respective departments. If the Army and Navy Hospital at Hot Springs is a success in every respect then such a hospital or hospitals in this Service would be far more successful, for where the other services treat one case we treat four. The other services have two objects in view in the use of the hospital at Hot Springs—economy and the return of enlisted men to duty, thus keeping up the efficiency of the two services—while the prime object with us is economy and the comfort of the patient, for the question of cure of tuberculosis is still in an unsettled condition.

ACCIDENTAL WOUND OF INTERNAL JUGULAR VEIN—RECOVERY.

By Passed Assistant Surg. JAMES B. STONER.

Surgical operations upon the neck, because of the many great nerves and vessels contained in this region, are always approached with the greatest caution, if not trepidation. Especially is this true when operations involve deep-seated neoplasms, where incisions can not be made large enough to fully expose the parts, and where the sense of touch must alone be depended upon.

The fact that the carotid artery and internal jugular vein have been injured in so many cases is sufficient to cause the surgeon to exercise the greatest care in these operations.

The following described case will illustrate some of the difficulties which may occur in these operations:

February 4, 1893.—Seaman G. K., aged 28 years, was admitted to the marine ward of St. Vincent's Hospital, Portland, Oreg., for the extirpation of a lymphoma of the neck. Its development began about six months previously and at the time of operation had attained the size of a large walnut. The tumor was situate in the left superior carotid triangle, was held down by the deep fascia and scar tissue, the latter resulting from a previous unsuccessful effort, by a practitioner, for the removal of the gland. The patient anæsthetized and the seat of operation rendered aseptic, an incision was made extending well over the summit of the tumor, when it was found that there were firm attachments to surrounding tissues, nerves, and vessels, making its removal very difficult. I accordingly exercised much care in the work of extirpation, but, notwithstanding my tedious efforts, finally wounded the internal jugular vein (in its deep and abnormal position), to the sheath of which the tumor was connected, and which prevented collapse of its walls.

There was at once a full and rapid flow of dark blood, nonpulsatile in character. Indeed, the stream was so rapid that it was impossible to sponge the wound sufficiently clean to locate and grasp the bleeding vessel for the purpose of ligation. I therefore carried hæmostatic forceps to the extreme depth of the wound in the tissues and finally succeeded in seizing the divided ends of the vessel and satisfactorily controlling the hemorrhage. The tumor was then removed by careful dissection and tearing with the fingers and handle of scalpel. Owing to free hemorrhage and difficulty of access to the injured vessel, the forceps were left hanging in the wound, this being preferred to further attempts at ligation. I then carefully packed with iodoform gauze, using the usual antiseptic dressing. At the expiration of seventy-two hours the forceps were removed and the wound repacked with gauze and dressed from time to time until granulation was complete and the wound closed. Immediately following division of the vessel there were symptoms of the entrance of air into the vein, indicated by weak pulse, feeble and irregular heart action, and oppressed respiration. Pressure was at once made upon the vessel at the cardiac side, the head lowered, and hypodermic injections of whisky administered. Reaction was established in the course of a few minutes.

TEMPORARY LOSS OF COLOR SENSE FOLLOWING AN INJURY OF THE EYES.

By Passed Assistant Surg. A. C. Smith.

The instance of temporary loss of color sense here noted came to my attention some considerable time after Bureau circular of September 5, 1892, requesting reports of such cases, was received and answered, but it has occurred to me that the case might be sufficiently interesting to report specially. I regret that I have only the man's own statements as evidence of his loss of color sense, but these statements were made in an intelligent and straightforward manner, and I regarded them as trustworthy. I determined for myself that his color sense was good at the time I knew him. His account was as follows: In the year 1858 he passed an examination in color sense at Norfolk, Va. In the year 1867 he was examined a second time at Norfolk and passed. In July, 1881, his eyes were injured by a scald and he was blind for four months. In December of the same year he was examined at Norfolk again. His sight was then very poor, and he could not distinguish colors at all; they were "all mixed" to him. In the spring of 1882 he was suffering from the excessive use of tobacco, and quit smoking by the advice of a physican, but continued to chew tobacco. He drank liquor to excess also at this time. In the summer of 1883 he was examined at Baltimore, Md. His sight had improved greatly, and he could read the test type fairly well, but he could not distinguish colors. In the spring of 1888 he was examined at Baltimore again. He could distinguish colors a little, but he did not succeed in getting a license. He still had the habits of excessive use of liquor and tobacco.

I examined his sight December 29, 1892. He did not come as an applicant for a pilot's license, but was curious to know what his visual ability and color sense were. I found his color sense perfectly correct and his visual ability as follows: Right, $\frac{20}{30}$; left, $\frac{20}{50}$. He was still using tobacco, and a month before I had had him under treatment in hospital for alcoholism. He was then about 60 years of age, and had followed through his life the occupations of seaman and submarine diver. From the history of the case it is evident that the excessive use of tobacco or of alcohol had little or nothing to do with the failure of color sense, and did not prevent its being regained. It would be interesting to know what the condition of the eyes was when ordinary vision was regained after the injury, but color sense was still lacking. I had no means of discovering this.

COMPOUND LINEAR FRACTURE OF THE FRONTAL BONE—ACUTE MENINGITIS—TREPHINING—DEATH.

By Assistant Surg. SEATON NORMAN.

J. T.; a negro roustabout; aged 24 years; a native of Kentucky; was admitted to the U. S. Marine Hospital at Evansville, Ind., April 14, 1893. The patient, while transferring lumber from the wharf to the steamer *Ragon*, became involved in an altercation and received a severe blow upon the head. The assault was committed by a negro and the weapon used was a thick piece of lumber, the dimensions of which could not be ascertained. The blow was sufficient to cause only transient loss of consciousness and the victim was conveyed to the police station where a local surgeon sutured and dressed the scalp wound. The patient was then passed from one officer to another, walking a distance of about 2 miles to the Marine Hospital. When admitted on April 14, at 11 o'clock p. m., his general condition was good. On account of the long walk he was somewhat exhausted and 15 centimeters of whisky were ordered. His temperature was 38° C., pulse full and regular, and respiration normal. The dressing was not disturbed.

April 15.—Morning temperature normal. Stated that he felt well. Wound was inspected and was found to extend 2.5 centimeters obliquely upward and outward from the left frontal eminence near the middle line. Dressed with iodoform gauze.

April 16.—Temperature, 37° C. a. m.; 37$\frac{3}{5}$° C. p. m. Wound dressed. Quin. sulph., 0.6 gm. ordered in evening.

April 17.—Temperature, 37° C. a. m.; Pill. C. C. (U. S. P.) III, and enema ordered. The patient requested permission to leave the hospital; was advised to remain. On same evening became delirious and temperature rose to 40° C. Quin. sulph., 0.6 gm. ordered. Wound almost healed.

April 18.—Muttering delirium. Temperature, 39$\frac{4}{5}$° C. a. m.; 40$\frac{4}{5}$° C. p. m. Patient very restless and "humane restraint" was applied during the day. Also, morphine sulph. administered hypodermatically. Quin. suph., 0.3 gm. t. i. d. It was decided to operate the same evening. The scalp was shaved and washed thoroughly with soap and water and a solution of bichloride of mercury (1 to 1000). The patient was anaesthetized (chloroform) by Dr. J. C. Le Hardy, interne, and a V-shaped incision was made on the forehead a little to the left of middle line, the course of the wound forming one of the lines of incision. The flap being reflected, a slight fissure was detected and the trephine was applied over the middle of its upper extremity. A large button of bone was removed and beyond a tense and engorged condition of the dura mater nothing of importance was detected. It was considered unadvisable to incise or puncture the dura. The piece of bone was replaced and the wound sutured with catgut, a small strip of iodoformized gauze being placed at the lower angle of incision. A hypodermatic injection of morphine and atropine was administered and the patient returned to bed. Slept well during night.

April 19.—Patient quiet and rational. Temperature, 39° C. a. m.; 41° C. p. m. Wounds dressed in evening. Restless, delirious, and restraints applied. Hyperdematic injection of morphine and atropine given when necessary.

April 20.—Temperature, 38$\frac{2}{5}$° C. a. m.; 40$\frac{4}{5}$° C. p. m. Complains of pain in occipital region. Ice bag applied at intervals to back of head.

April 21.—Temperature, 39$\frac{2}{5}$° C. a. m.; 39$\frac{4}{5}$° C. p. m. Pulse and respiration good. Complains of pain in abdomen, and enema was given. Muttering delirium returns during evening, and marked deafness supervenes.

April 22.—Temperature, 39⅕° C. a. m.; 40⅘° C. p. m. Pulse full, but irregular. Fifteen centimeters of whisky ordered every three hours. Does not understand anything, and talks continuously.

April 23.—Temperature, 39⅗° C. a. m.; 40° C. p. m. Pulse very irregular, and whisky continued.

April 24.—Pulse at 9 a. m. was hardly perceptible, and respiration labored. Temperature not taken. Died at 11 o'clock a. m.

Necroscopy (six hours after death).—Body well nourished. *Rigor mortis* marked. Wound examined and no pus detected. Edges of wound partially united. Button of bone removed and dura mater incised, but no fluid escaped. On removing scalp, fissure was observed 5.1 centimeters in length, commencing at left of nasal spine and extending obliquely upward and outward. Small clot found at lower termination of fissure. The dura mater showed general congestion and inflammation. On removing dura a small clot was detected resting on cortex near the fissure of Sylvius, and above the upper limit of the fracture. A third clot of smaller size appeared just to the right of the longitudinal fissure and posterior to the parieto-occipital lobe. Other organs not examined.

A SIMPLE AND USEFUL STRETCHER FOR USE IN OPERATING ROOM, WARD, AND AMBULANCE.

By Assistant Surg. L. E. Cofer.

The difficulty usually experienced in moving a patient from the operating table to a stretcher, and the danger from disturbing the dressings where he is taken up by several men who may not lift together, has suggested this style of stretcher. Its usefulness will be readily seen after the description below is read.

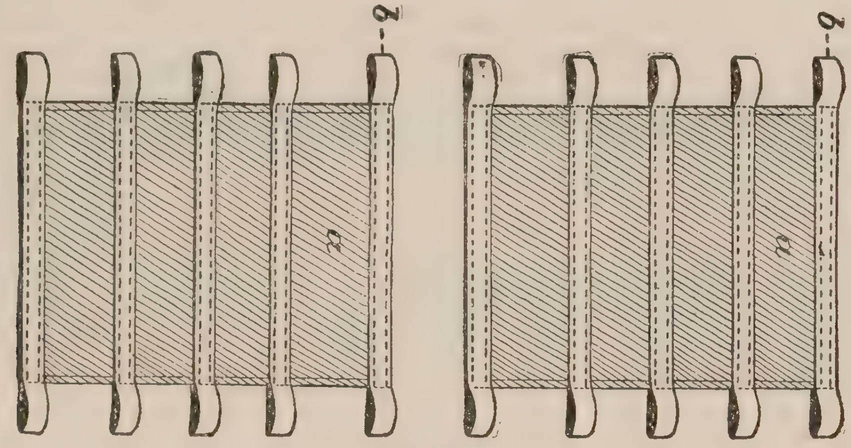

Fig. 1.

Fig. 1 represents the two halves of the floor of the stretcher. These are 3 feet long each and 27 inches wide. The material must be white canvas. The squares *a* are strengthened by the side loops *b*, which are made of the same material and are stitched to both sides of squares. The diameter of the loops must be 2¼ inches. There must be five loop straps to each square. Just here I will say that these squares are intended to be made aseptic and placed upon the operating table before the patient is put upon it; after the operation the poles are slipped through the loops and the stretcher managed by two men.

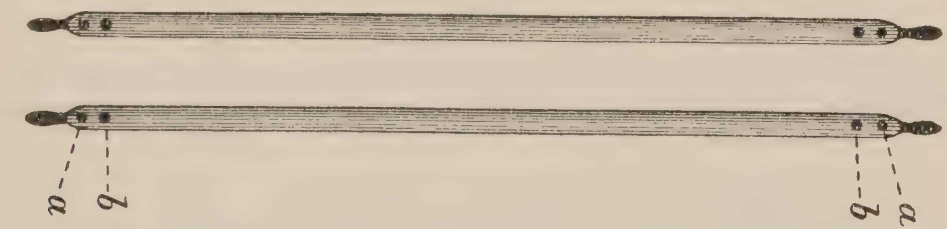

Fig. 2.

Fig. 2 represents two poles, made of hard wood, rounded, diameter 2¼ inches. Length of poles 7 feet, 4 inches on each end cut down for handles, and 2 inches left for holes *a* and *b* on each end. The holes marked *a* are for the cross wire (see fig. 3).

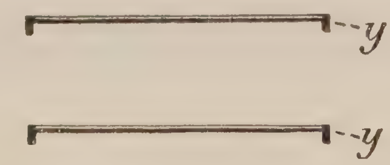

Fig 3.

The holes marked *b* are for the reception of the pins *x* (see figs. 7 and 8), which serve to hold the stretcher in position should it be used in an ambulance.

Fig. 3 represents the cross wires, which consist of two pieces of steel wire threeeighths of an inch in diameter, and 29¼ inches in length, not including the bent part *y*, which should be 2¼ inches in length. The use of the cross wires will be shown in

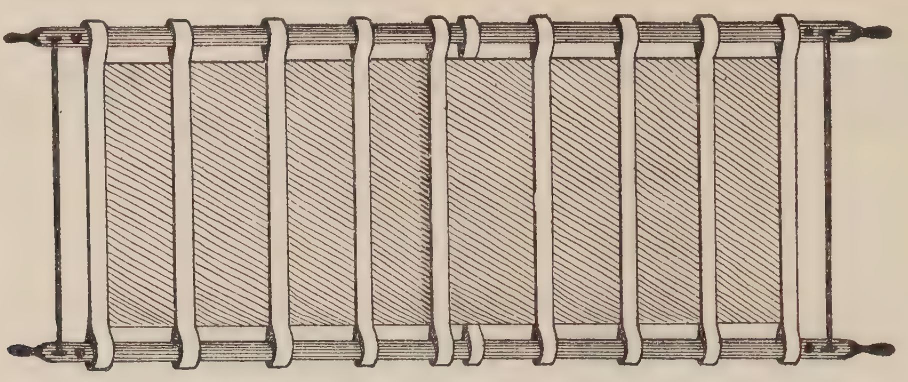

FIG. 4.

fig. 4, which represents the stretcher ready for use. The cost of this stretcher complete will be $10; much less, where sailors can be found who know how to work in canvas.

For the use of this stretcher in ambulances, several things must be done. as follows:

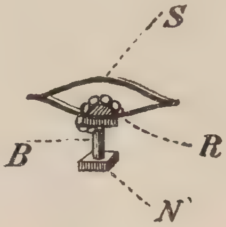

FIG. 5.

Fig. 5 represents a steel spring 12 inches long and 5 inches high, provided with a slot *S* on top for the reception of cross bar (see figs. 6 and 7), and a rubber *R*, to help sustain all weights over 175 pounds. This will be fastened to the bottom of the ambulance by means of the bolt *B* and the nut *N*.

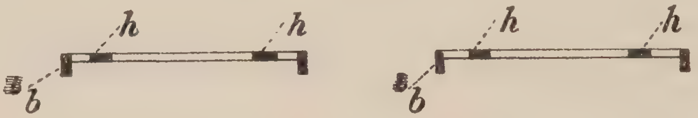

FIG. 6.

Fig. 6 represents the cross bars to be used in connection with the springs as a bed for the stretcher. They must be made of steel, 1 inch wide and one-fourth inch

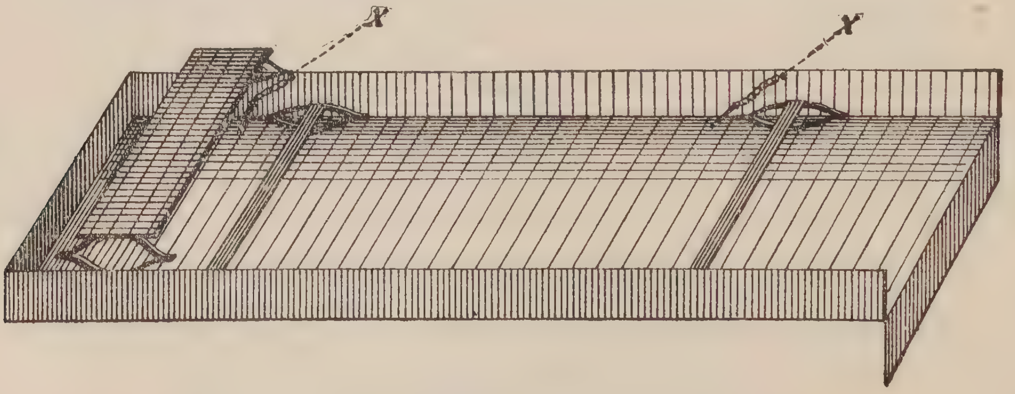

FIG. 7.

thick. Their length may vary, as may the distance between the springs from side to side, but the holes *h*, for the reception of the pins *x* (see fig. 7), shall always be 29¼ inches apart. At each end they must be bent (*b*) fig. 6, to fit into slot *s*, of spring (see fig. 7).

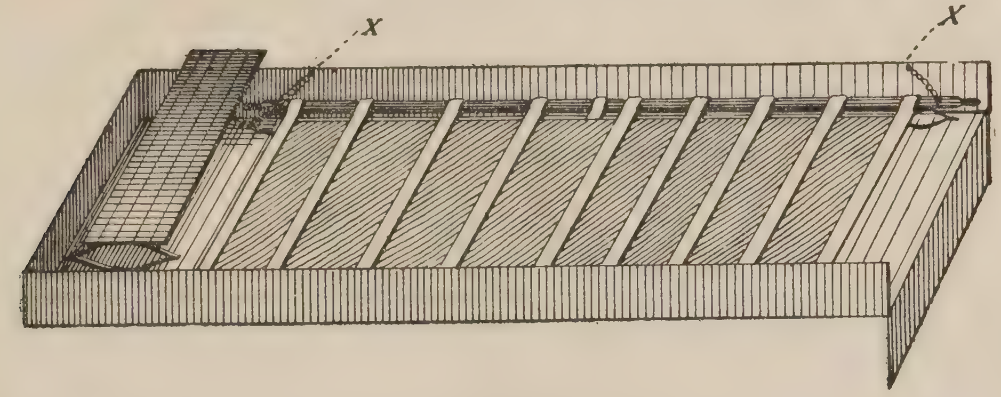

FIG. 8.

Fig. 8 shows stretcher in position.

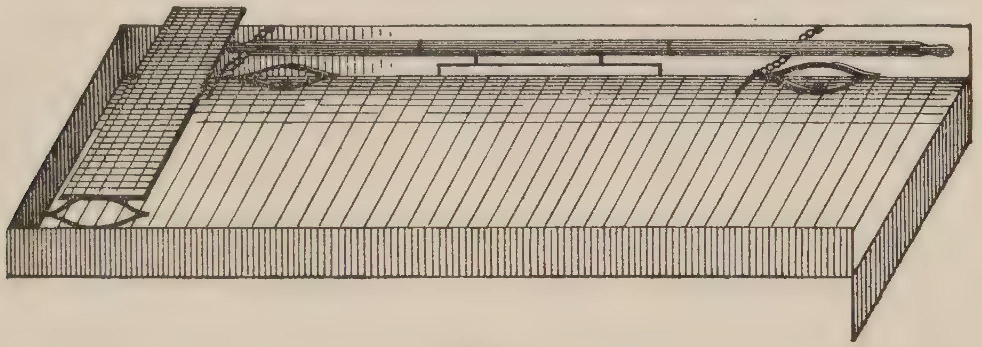

FIG. 9.

Fig. 9 shows stretcher packed away in ambulance when not in use.

REPORT OF HOSPITAL CASES.

By Assistant Surg. C. E. DECKER.

The following cases, which have been under my immediate charge at the hospital at San Francisco, while not remarkable, still seem to me to present some specially interesting features.

Case 1, Abscess of buttock.—Interesting, because of mode of infection; a peculiar venous reflex; and as illustrating the value of treating large abscesses by packing instead of by small incision and drainage tube.

H. P.; aged 29 years; good personal history; large and strong; no organic disease; complains of pain in left buttock and inability to walk. Admitted April 19, 1893.

History.—Several months ago had over coccyx a small abscess, cause unknown; abscess incised by ship's surgeon, who packed cavity with oakum. A sinus resulted, which would not heal. A few weeks ago patient applied at Marine Hospital dispensary; officer in charge explored sinus and removed from it considerable oakum. Patient soon apparently well. Fourteen days ago pain began in left buttock. Patient now has fever (38, 39 C.), can't lie on back; breaths 35 to 50 times a minute; countenance anxious. Large tense swelling on the upper and inner aspect left buttock, throbbing and painful, skin not red. No spinal tenderness, rectal examination negative. Exploring needle found thick yellow pus at depth of 8 cm.; 100 c. c.; withdrawn; partial relief of symptons; breathing less rapid and pain less; fever same. Two days later all symptoms returned; aspiration, 250 c. c.; thick pus removed; relief immediate. Next day skin reddened over coccyx; fluctuation; incision, oakum and pus escaped. Three days later exploration under chloroform; incision over coccyx; small circumscribed abscess found containing a large lock of oakum; large abscess in substance of glutæus maximus incised and drained. Two days later evident that whole of trouble not reached; further exploration under chloroform; immense abscess found below gluteal muscles, occupying whole of external iliac fossa, and burrowing almost into pelvis; large amount of pus evacuated; no bare bone found; cavity cleaned out and drained with large rubber tube. In a few days, the tube having failed to drain whole of cavity and fever resulting from pus accumulating in pockets, incision enlarged to about 7 inches long, and cavity of abscess packed with iodoform gauze to secure healing from bottom. Some idea of the size of the cavity may be judged from the fact that it took 10 to 12 yards of 4-inch gauze, not very tightly packed in, to fill cavity. With the evacuation of the main abscess all the symptoms abated, including the rapid breathing. The cavity was repacked and dressed every three to five to seven days. Improvement was steady. Patient discharged Augu st 16, recovered.

I think it plain that the abscess was caused by infection of the deep gluteal and sciatic lymph glands from the small abscess over coccyx, this abscess being caused by the retained oakum. The cause of the original coccygeal trouble I was unable to discover. There was no bone disease while patient was under my care.

The rapid breathing I think was due to the reflex disturbance from pressure on the nerves of the region.

Case 2, Empyema.—Interesting because of the unusual burrowing of the pus.

J. H.; aged 29 years; coal passer on transpacific steamer, admitted December 23, 1892. Thirty-five days before admission, at sea, noticed temporary tenderness in right side of chest; had malaise, but kept at work. Ten days before admission had a chill; two days later a swelling appeared in right lumbar region. Had no cough.

Examination.—Very weak; weight, 130 pounds (normally 150); skin dry; temperature (a. m. 38C., p. m. 39C.). Lungs: slight dullness right apex; harsh breathing at both apices. Heart normal, abdomen tympanitic, urine normal. In right lumbar region there was a large, smooth, globular tender swelling. Exploring needle finds pus. Probable diagnosis, perinephritic abscess.

December 29.—Ether; diagonal incision as for lumbar nephrotomy. Pus found beneath fascia, 500 c. c. evacuated; source, pleural cavity; kidney not exposed. Large drainage tube introduced. Temperature immediately became normal and recovery was rapid, patient being discharged February 6, well.

I saw him on the street several weeks after, and he said he was in perfect health, and weighed between 150 and 160 pounds. He looked extremely well.

Empyema, though considered, was excluded, as there was no dyspnœa, no abnormal area of dullness in right side, and vesicular murmur was present as low as normal. I ascribe the absence of pleural signs on admission as due to the pus having mostly escaped from the pleural cavity.

The course the pus took I was unable satisfactorily to determine, but think it escaped from the pleural cavity between the diaphragm and the outer border of the quadratus lumborum, following the latter muscle downward.

Cases 3 and 4, Fistula in ano.—The first case interesting on account of the relapses, the second on account of the long duration of the disease, and both because of absence of tubercle of lung.

J. C.; aged 33 years; admitted March 20, 1893. General health good. Family and personal histories good. No lung disease. Fistula first appeared sixteen years ago. Cutting operation two years later; recovery. Recurrence four years later; abscess lanced; recovery in three days. Was well until last August, when there was recurrence again; same location of disease in all instances. Fistula on left side of anus; two external openings near together 1⅞ cm. from margin of anus; one internal opening 2½ cm. from anus.

April 1.—Ether; sphincter thoroughly stretched; fistulous tracts laid open freely and thoroughly curetted. Plug introduced composed of iodoform gauze wound about a piece of large rubber drainage tubing. Bowels confined three days, when plug and feces brought away by enema given through tube. Wounds packed with strip of gauze every second day. Reflex disturbances of bladder, lasting for three weeks; at first retention, later tenesmus and ardor urinæ and frequent urination. Discharged, recovered, June 7.

A. R.; aged 43 years; anemic, but has no discoverable organic disease. Fistula in ano for seven years, following "Panama fever." During treatment of fever he was given quinine in solution per rectum. Several fistulous openings on left of anus near margin; one internal opening 3¾ cm. from anus; pus in considerable amount.

Operation May 5.—Ether; same proceedings as in other case. Similar symptoms on part of bladder, but less severe, lasting only a few days. Same after treatment as in other case. Discharged, recovered, June 19.

Case 5, Glucosuria.—Interesting because of the tracing of a possible cause, and because of the disappearance of the sugar under treatment.

T. I.; aged 30 years; admitted February 9, 1893, for ulcer of leg. Sent to surgical ward, where Assistant Surg. Brown elicted the following history and diagnosed the glucosuria. Has always had good health. Drinks to excess on shore. Ulcer of penis thirteen years ago, but had no symptoms of syphilis. On a big spree two or three weeks ago. Ulcer of leg two weeks. Has not been feeling well for two weeks.

On admission all symptoms of diabetes mellitus marked—2,500 c. c. urine in eight hours, sugar-laden. Heart and lungs normal; no nervous disease.

On February 16, ulcer being nearly well, patient transferred to my care in medical ward. On further questioning him, learned he seldom ate sweets; but that one day during the last holidays he had eaten excessively of cheap candy from a large box broken open in the freight on board his boat.

Had had diabetic diet in surgical ward, but improvement had been slight. I continued the diet, and prescribed morphine sulphate, 0.015 gm. t.i.d. (Osler, Practice of Medicine, p. 304). Immediate improvement occurred during next few days; urine less in quantity, specific gravity steadily lowering, less sugar. On February 21 I doubled the dose of morphine. On February 22, six days after beginning the treatment, examination of urine showed: twenty-four hours, quantity, 1,950 centimeters; specific gravity, 1,022; reaction, acid; no sugar. Two days later I withdrew the morphine to see if sugar would return. February 28, specific gravity, 1,020; no sugar. Next day sugar was in large amount and other symptoms proportionately severe. I immediately ordered 0.03 gram morphine t.i.d. March 3, sugar less; quantity urine in twenty-four hours, 2,625 centimeters; specific gravity, 1,020. March 5, sugar absent, specific gravity, 1,010; urination much less frequent during night. On March 4 I discovered that by error of nurse, patient had been getting a few string beans or green pease once daily for three or four days; but since, while getting these, the sugar decreased under the morphine. I do not consider the error had an important effect in the case. From this time improvement was continuous, except that on March 9 sugar reappeared for that day only. On March 12 the dose of morphine was increased to 0.12 grams in the twenty-four hours. On March 22 the dose was reduced to 0.09 grams in twenty-four hours, and next day stopped entirely. Patient discharged March 28, at own request, in good health.

Of course I do not regard the outcome as a positive cure, but only as indicating the value of morphine in the disease. At no time were the ordinary effects of morphine seen, and its withdrawal was no hardship to the patient.

To guard against possible error, the samples of urine were examined while fresh and the Fehling solution was frequently renewed.

OBLIQUE INGUINAL HERNIA (INCARCERATED)—OPERATION FOR RADICAL CURE.

By Assistant Surg. JAS. A. NYDEGGER.

T. O. S.; aged 43 years; nativity, Pennsylvania; admitted to the marine ward of the Mercy Hospital, Pittsburg, Pa., August 10, 1893, with a small irreducible oblique inguinal hernia of the right side. The hernia had existed for eight years. At no time had it caused much inconvenience. The patient had not worn a truss. Occasionally when lifting in a stooping position the hernia would come down, but was always easily returned by manipulation. Seven days previous to August 10 the patient jumped from the deck of a boat down on a wharf, a distance of 6 or 7 feet. The hernia came down, and neither he nor his captain (during numerous attempts at different intervals) were able to return it. The patient continued to perform his duties as usual on board the boat, and on arriving in the city applied at the office for relief. He had experienced no difficulty or pain, beyond a slight soreness in the right inguinal region, from the time of the accident. The bowels had moved freely every day. Taxis without an anæsthetic failed to reduce the hernia. An operation was advised, not so much to remove the present danger as to prevent complications from occurring at any time in the future, which might lead to a case of strangulated hernia.

The operation was performed under anæsthesia by ether and with antiseptic precautions. An incision from 4 to 5 inches in length, with the center of the incision corresponding to the middle of the swelling, was made, running from the upper border of the external ring down toward the apex of the right scrotum. The peritoneal sac containing intestine was reached, opened, and a finger introduced for the purpose of returning the intestine to the abdominal cavity. This, it was found, could not be executed without subjecting the intestine to much pressure in manipulation, for a portion of gut, apparently not to the exclusion of its lumen projected beyond the external ring of the canal, and distended to a considerable extent with gas and solid matter, was thus held by a band of constricted tissues at the internal ring. Accordingly a hernia knife was passed in with considerable difficulty, and the tissue, forming the constriction divided in the direction of the umbillicus, and the incarcerated gut returned to the abdominal cavity. Its color was perfectly normal, showing that its circulation had not been obstructed. The sac was dissected out from the surrounding tissues to within the abdominal cavity and tied off as far up as possible after traction had been exerted on it.

The sac, or that portion of the peritoneum external to the ligature was formed into a pad and placed in the external opening of the canal behind the pillars, and in this position stitched to the pillars on either side and above. The incision was closed with interrupted sutures. Silk-worm gut was used for the ligature and silk for the sutures and stitches. Dry bichloride gauze, absorbent cotton, and a bandage applied completed the dressings. No arrangement was made for drainage.

The progress of the case from the date of the operation up to the tenth day was uneventful. A slight rise of temperature, 37.8 C., took place on the day following the operation, but by the succeeding day it had sunk to normal.

On the ninth day after the operation the original dressings were removed. They were unsoiled. No discharge had taken place. The wound had entirely healed over. The sutures were removed. The morning following the patient complained of pain in the region of the operation. The temperature was slightly above normal. By 4 o'clock p. m. of the same day the temperature had reached 39.60 C., accompanied by a rapid pulse, headache, and general discomfort. The patient was anæsthetized and the wound reopened. In the site of the obliterated external ring of the canal a pus pocket was found containing, probably, 30 centimeters of foul-smelling pus. The wound was irrigated with hot bichloride solution, dusted over with iodoform and packed with iodoform gauze. The patient was put on a supporting treatment. Thirty hours afterwards his temperature had dropped to 37.2° C. The wound at once took on a healthy appearance, and at present is almost closed by the granulation process. There are no appearances of a returning hernia. The patient will soon be discharged, it is presumed, completely recovered.

There is nothing of particular interest in connection with the above case why it should be reported, except the fact of a suppurative process occurring in the wound the tenth day after the operation.

I am of the opinion that the wound was inoculated by the silk used to stitch the peritoneal pad to the pillars of the ring. Previous to the operation the silk was boiled in water for twenty-five to thirty minutes, and remained in hot water until removed for use. Perhaps the disinfecting process was not continued a sufficient length of time to destroy all septic material in the central portion of the thread, which afterwards was absorbed by the tissues in close juxtaposition.

The constriction exerted on the sac by the ligature was not of sufficient force to prevent circulation distal to the point of ligation, and thus produce local gangrene.

THE RELIEF STATION AT SOLOMONS, MD.

By Acting Assistant Surg. W. H. MARSH.

This station was established in January, 1890, through the efforts of the present Surgeon-General, who, whilst in charge of the U. S. Marine-Hospital Service at Baltimore, Md., in 1882, was brought in contact with the oyster dredgers of the Chesapeake Bay, a class of seamen of whose hard and toilsome life very few have any conception. Surg. Wyman, during this service, had abundant opportunities of viewing the results of the hardships and sufferings these men were subjected to during the winter months; and very graphically portrayed them in a paper read before the American Public Health Association, which was published in its report for the year 1884.

From a practice among this class of seamen extending through sixteen winters, I can testify to the fact that the life of the oyster-dredger as described by Surg. Wyman was under, rather than over, drawn. I have seen many cases of disease and injuries occurring among them where the patient has been kept aboard ship, in a small forepeak, subject to all the discomforts incident thereto, until he recovered sufficiently to go to work again, or the vessel had caught her cargo of oysters, as it would have been too much time lost to carry the patient to either Baltimore or Norfolk, the two cities bounding the oyster grounds on the north and south, where hospital relief could have been obtained. In some cases sick and wounded seamen have been put ashore, they being too much of an encumbrance aboard ship, where they would seek relief from some farmhouse, if able to crawl, or would be found lying along the highway in an exhausted condition.

Surg. Wyman advocated the establishment of a relief station in close proximity to the oyster grounds, to which the sick and wounded could be carried and cared for. These efforts were finally accomplished, and the condemned U. S. revenue cutter *Stevens* was obtained, fitted out with all necessary stores, and converted into a floating hospital. She was placed in charge of Assistant Surg. J. B. Stoner, towed to the Patuxent River, and anchored on January 28, 1890, where she remained till the close of the dredging season in April.

In October of the same year, the *Stevens* having been sold in the meantime, Surg. Hutton was detailed to obtain a site on shore in the same locality where a relief station could be established, and Solomons was selected. This place was formerly an island, but is now joined to the mainland by means of a causeway, and lies on the Patuxent River about 2 miles above its mouth. It is a village of 450 inhabitants, many of whom are engaged in the oyster industry. A house was rented and fitted with the necessary furniture and stores, a contract made for subsistence and nursing of patients, and placed in charge of an acting assistant surgeon.

A better location could not be found. In the roadstead in front of the village is a harbor that is unexcelled, and here nightly and in stormy weather hundreds of oyster boats and other vessels lie at anchor. This place being nearly centrally located, as regards the oyster grounds, large numbers of vessels come here when provisions or water run short, there being several large stores and two artesian wells from which they can be supplied, besides three shipyards, where any damages to their vessels can be repaired. On Sunday it is no unusual sight to see 300 or 400 vessels lying at anchor in the harbor.

The kinds of injuries received at this station are those mostly caused by the dredge cranks, though of late years, since some improvements have been made in the "patent," they are not as numerous as they formerly were. Poisoned wounds of the hand, sometimes called "oyster-shell hand," are frequent, causing much pain and suffering among them. Gonorrhea, ulcer of the penis, and inflammation of the lymphatic glands of the groin are quite numerous.

It is a very noticeable fact that comparatively few cases of pneumonia and pleurisy are seen among this class of poorly fed, thinly clad, hard worked set of men. Numbers of them come to the office in the coldest weather wearing only a coat, shirt, and trousers, often of the thinnest material, more suitable for summer than winter wear, and often without stockings. Bronchitis heads the list of diseases to which they are subject, while rheumatism is very prevalent, due to their sleeping on the bare floor of the forepeak in their wet clothing, often with no covering to put over them, and only the heat of a diminutive stove and a smoky coal-oil lamp to take the chill off the place, yet the laws of Maryland say every vessel engaged in the oyster industry shall carry a mattress and blanket for each member of the crew. In some cases the food provided has been of the poorest kind, conducive to dyspeptic and diarrheal troubles, but since several masters of dredging boats have been prosecuted by the U. S. commissioner for issuing poor and insufficient food, and for ill treating crews, this has been obviated to a great extent.

As the captains of these vessels are opposed to losing any time during the day the majority of those seeking relief present themselves for treatment at night, after the vessel has come into harbor and anchored, and should she be late in getting in harbor on account of light winds it is no unusual thing to be rung up at midnight.

Sunday is a red-letter day for sick calls, and the doctor is on duty all day. The largest number presenting themselves for treatment on Sunday was in November, 1892, when office relief was furnished to 21 applicants, 2 admitted to hospital, and 3 had prescriptions renewed, besides having to fill out the master's certificate in nearly every case, as the captain will inform you he will sign it but is unable to fill it out. The patient is always accompanied by the captain or mate of the vessel, for fear he will take this opportunity to desert.

In accidents requiring operative interference the operator is often compelled to rely on the members of the crew who have accompanied the injured one to the hospital to assist him, as no other medical men reside in the immediate vicinity.

During an operation for strangulated hernia, performed at night, in December, 1892, after anesthetizing the patient, the cone was given to the mate of the vessel, who kept up the anesthesia throughout the operation, the nurse doing the sponging, while two of the crew were utilized in holding lamps and rendering other assistance. It suffices to say the patient recovered without any serious mishap. This patient was the subject of a double inguinal hernia, brought on by hard work at the dredge cranks, the right hernia becoming strangulated about forty hours before his admission. He was a Russian, unable to speak English, and the captain of the vessel disregarded his complaints of pain at first, thinking his trouble was of no account until the great swelling and tension of the scrotum, to which his attention was drawn by one of the crew, showed some serious condition prevailed.

Through the kindness of the Women's National Relief Association two large boxes of clothing have been received and distributed to the needy ones. The Chesapeake Bay missions, of Baltimore, have also contributed to the same purpose.

Appended hereto is a tabulated statement of the patients treated at the station, from its establishment in November, 1890, to the end of the fiscal year, June 30, 1893.

MEDICAL.

Measles	3	Malarial fever, remittent	1
Influenza	28	Malarial cachexia	6
Mumps	4	Gonorrhea	75
Dysentery	3	Alcoholism	5
Malarial fever, intermittent	43	Debility	11

MEDICAL—Continued.

Rheumatism	40
Rheumatic fever	1
Tubercle lung	1
Apoplexy	1
Paraplegia	1
Neuralgia	7
Vertigo	3
Megrim	10
Epilepsy	1
Nasal catarrh	1
Ozena	1
Valvular disease of heart	1
Bronchitis, acute	191
Hemorrhage of lung	2
Pneumonia	3
Pleurisy, acute	1
Sore throat	23

Quinsy	1
Follicular tonsilitis	12
Follic. inflam. pharynx	1
Dyspepsia	36
Gastrodynia	6
Vomiting	1
Catarrhal inflam. of intestines	14
Obstruction of intestines	1
Diarrhea	40
Constipation	57
Colic	2
Jaundice	1
Ascites	1
Inflam. of bladder	10
Irritability of bladder	4
Spermatorrhea	3
Lightning stroke	1

SURGICAL.

Erysipelas	1
Syphilis, primary	4
Syphilis, secondary	16
Condyloma	3
Papilloma	1
Conjunctivitis	11
Iritis	6
Hematoma eyelid	1
Sty	2
Abscess external auditory meatus	1
Inflam. middle ear	4
Ulceration of nose	1
Fissure of lips	1
Caries dental tissue	51
Abscess dental periosteum	3
Inflam. gums and alveoli	1
Toothache	4
Hernia, umbilical	1
Hernia, inguinal	2
Hernia, inguinal strangulated	1
Piles, internal	1
Piles, external	10
Fistula in ano	1
Inflam. lymphatic vessels	1
Inflam. lymphatic glands	21
Suppuration lymphatic glands	4
Haematuria	1
Retention of urine	4
Stricture of urethra	2
Inflam. prostate gland	1
Ulcer of penis	51
Hydrocele tunica vaginalis	2
Orchitis, acute	5
Epididymitis	1
Synovitis, thumb joint	1

Inflam. muscles	49
Ganglion	1
Œdema connective tissue	1
Abscess	6
Erythema papulata	1
Eczema	19
Impetigo	5
Ulcer	28
Fissures	12
Boil	24
Whitlow	3
Corn	1
Ringworm	1
Phtheiriasis	12
Snake bite	1
Strain of muscles	2
Burns and scalds	7
Frostbite	5
Abrasion	5
Foreign body in hand	1
Scalp wound, bone not exposed	5
Scalp wound, bone exposed	2
Fracture vault of skull, compound, with depression and laceration of brain tissue	1
Wound of face	8
Contusion of eyelid	1
Wound of eyelid	6
Wound of neck	1
Contusion of chest	1
Dislocation costal cartliges	1
Contusion of back	7
Contusion of abdomen	1
Wound of groin	1
Contusion, upper extremity	8

SURGICAL—Continued.

Sprain, upper extremity	2	Fracture, phalanges of thumb, compound comminuted	1
Wound, upper extremity	16	Contusion, lower extremity	10
Wound, upper extremity, gunshot	1	Sprain, lower extremity	2
Wound of hand, poisoned	24	Wound, lower extremity	7
Fracture of humerus	1	Fracture, both bones of leg	1
Fracture of radius, compound	1		
Fracture both bones of forearm	1		

Since its establishment three deaths have occurred at the station from the following causes: Alcoholism, 1; apoplexy, 1; fracture, vault of skull, with laceration of brain tissue, 1.

EXCISION OF THE EYEBALL.

By Acting Assistant Surg. W. H. HEARD.

C. S. (colored); age, 31 years; nativity, Tennessee; deck hand on the steamer *A. R. Bragg*, of Memphis; was admitted to hospital at Newport, Ark., on April 10, 1893, suffering with neuralgia of eyeball. Cause: Gonorrheal ophthalmia.

History.—On October 12, 1892, he was admitted to this hospital suffering with gonorrhea. During the time a severe ophthalmia developed in the left eye, for which he was treated, and progressed favorably up to November 20, when he deserted, and nothing more was heard of him until he presented himself as above stated.

He was treated with the usual neuralgia remedies. Nothing seemed to give relief except hypodermic injections of morphia and atropia or large doses of sulphate of morphia internally; he would have periods of relief for two or three days when severe exacerbations of pain would return and last for at least twenty-four hours.

About April 18 I discovered that he was suffering with panopthalmitis and proposed to him the excision of the eyeball as the means of relief, but failed to obtain his consent, and from time to time I urged upon him the necessity of the operation.

About May 1, the right eye becoming weak and inflamed, he gave his consent to have the diseased eye taken out.

May 3, 10 a. m.—Drs. Owen, P. Pool, and Jones being present, he was placed upon the table, the parts well sponged with a warm bichloride solution 1 to 2,000, then chloroformed and the lids separated with improvised retractors made of hairpins. On attempting to pinch up the conjunctiva the central portion was found disorganized, and a bistoury was necessary to dissect through the capsule of Tenon. The oblique and straight muscles were severed near the sclerotic coat, the recti were caught up with a hook and divided in like manner; after several clips with the scissors the globe was tilted forward and the optic nerve severed obliquely near the sclera, when the globe was easily removed. Hemorrhage was controlled by pressure for a few moments with the index finger; the cavity was then syringed out with a warm bichloride solution 1 to 1,000. In about thirty minutes the patient was put in bed, absorbent cotton with bandage was placed over the eye and left until evening. At 6 p. m. the patient was found resting comfortably; quarter grain sulphate of morphia was ordered to be given at bedtime.

May 4, 9 a. m.—Patient resting well. Temperature normal. Bandage removed and cavity syringed with warm bichloride solution 1 to 3,000. Thereafter there was no untoward symptom. The patient slept well at nights without the use of narcotics. The cavity was syringed out daily with a weak bichloride solution, fresh cotton and bandage being applied each day. He was discharged on May 23, fully recovered, with good stump.

REPORTS OF FATAL CASES WITH NECROPSIES.

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INFLUENZA.

CASE 1.

Ulcerative endocarditis.

A. S.; age, 26 years; nativity, Georgia; admitted to the Marine Hospital, Memphis, Tenn., December 16, 1892; died March 13, 1893.

History.—The patient developed an attack of influenza while in the hospital under treatment for gonorrhea and orchitis. He had sore throat, pains in the chest, pain over the lower portions of the ulnar and radial nerves of the left arm, pain in the head, a petechial eruption sparsely scattered over the body, cough, and fever. Symptoms of pleuritis on the left side appeared. Paresis of the extremities developed, and anesthesia of the upper extremities extending to the shoulders and anterior chest wall. The face, neck, and scalp also became anæsthetic, and the lower extremities were affected to a less degree in the same manner. The anesthesia was accompanied by pain in the hands and wrists. January 3 the circulation began to be affected. The heart beat was reduced to 60 per minute and was unrythmical, with reduplication of the second sound. There was no valvular murmur. Later on, pericarditis developed. The patient's symptoms varied in severity at times, but his condition grew gradually worse until death took place.

Necropsy (*period after death not noted*).—Body emaciated. *Rigor mortis* present. The lungs were universally adherent. The lung tissue was crepitant and floated, and was normal in appearance, but very pale. The bronchial glands were enlarged; some of them were cheesy. The pericardial sac contained a small amount of serum. The parietal layer of the sac showed a few small granular deposits; there were no adhesions. Patches of exudate were scattered over the surface of the heart. Some of them were organized and contained blood vessels; others were mottled with patches of extravasation. A few patches of extravasation were seen beneath the normal portions of the visceral pericardium. The surface of the right auricle was covered with small gray masses, rough to the touch and having the appearance of tubercles. The heart muscle was flabby and anemic. The coronary arteries were degenerated. Large decolorized clots were found in all the cavities ot the heart intimately adherent to the valves. A few patches of extravasation were found beneath the endocardium of the left ventricle. The mitral valve was thickened and covered with vegetations. The aortic valve was normal. The beginning of the aorta was slightly dilated just above the sinuses of Valsalva; its inner and middle coats had been destroyed by a small circular ulcer with ragged edges. This ulcer communicated with a cavity as large as a cherry, which was separated from the pericardial sac by only a thin layer of tunica adventitia. The tricuspid valve was thickened by vegetations. The pulmonary valve presented a remarkable appearance. One of the cusps was normal; the others were almost completely destroyed by ulceration, the stumps being represented by a mass of reddish-yellow granulations. Similar masses of granulations were seen on the endocardium and on the intima of the pulmonary artery immediately adjoining the diseased valve. The heart weighed 355 grams.

Abdomen.—The mesenteric glands were enlarged. The liver weighed 3,315 grams. Its surface was smooth and normal in color. It was granular on section. The spleen weighed 1,595 grams. Cicatricial depressions existed on its surface. There were also on its surface two large and thick masses of fibrinous appearance. The spleen pulp was firm and the connective tissue in it increased beyond normal. The organ contained hæmorrhagic infarcts. The enormous bulk of the liver and spleen had distended the lower chest and widened the costal arch. The kidneys were very pale, but apparently normal. The brain was not examined. The other organs were normal.

CASE 2.

Œdema of the lungs.

I. L.; aged 38 years; nativity, Mississippi; was admitted to the U. S. Marine Hospital, New Orleans, La., March 13; died March 25, 1893.

History.—Patient was much reduced in flesh and complained of heavy chills and high fevers for four days previously. He had suffered with a harassing cough for a month, and sought relief from severe pain between the shoulders and in small of back. Temperature on admission 38° C., rapidly rising, pulse 100, respiration 30, and superficial. He was given a hot bath, the abdominal viscera relieved by a mild purge, followed by an enema and full doses of quinine. A tonic and supporting treatment, with abundant nourishment, supplemented by a "cotton jacket," was instituted. Œdema of the lungs supervened and terminated the case.

Necropsy (*twelve hours after death*).—Body that of a muscular, well-nourished, very black negro man of middle age. *Rigor mortis* slight. Heart very small; weight, 215 grams. Pericardial sac distended with straw-colored serum. Lungs, both apices tuberculous and loaded with serum; left, weight 695 grams; right, 1,040 grams. Lungs attached to chest walls by numerous firm bands. Mesenteric glands enormously enlarged. Liver normal; weight, 1,790 grams. Kidneys: left, weight 195 grams; right, 175 grams. Spleen tuberculous, yellow in color; weight, 390 grams.

CASE 3.

General debility.

J. J.; aged 73 years; a native of Louisiana; was admitted to the U. S. Marine Hospital, St. Louis, Mo., January 11, 1893, and died March 1, 1893.

So far as could be elicited, his family history was good. He had had malarial fever several times. In the fall of 1892 he had la grippe, and could not gain strength after this attack. He felt weak and there was dyspnœa on the slightest exertion. He had no cough. He experienced a dizziness at times. There were no adventitious sounds over heart or lungs. He failed steadily and died on the 1st of March, 1893.

Necropsy (*eighteen hours after death*).—There was some bronzing of the skin over both thighs. Both lungs adherent at apices by old pleuritic bands. All serous membranes normal. Lungs congested. Right weighed 810 grams; left, 750. They were congested, but crepitated. Heart small; valves normal. Aorta atheromatous in patches. Heart weighed 285 grams. Spleen congested and friable; weighed 310 grams. Kidneys atrophied. The cortical and medullary portion smaller than normal; capsules adherent. Right kidney weighed 105 grams; left, 115 grams. Liver atrophied at the expense of the hepatic cells. There was no thickening of Glisson's capsule. There were five stones in gall bladder, shaped like a grain of buckwheat and about twice as large.

CASE 4.

Gastro-enteritis.

H. L.; age 41; nativity, Germany; admitted to marine ward, Sisters' Hospital, Buffalo, N. Y., April 6, 1893. Died April 23, 1893.

History.—The patient, a sergeant of marines, U. S. Navy, had suffered for some weeks from symptoms of influenza, with great prostration. He grew steadily worse, and a gastrointestinal inflammation, with fermentation and toxæmia, which was the principal local manifestation of the disease, reduced him to such an alarming state that he was finally sent to the hospital. There he was treated with resorcin, salol, stimulants, and carefully regulated diet. For a time he rallied and improved somewhat. Then his appetite entirely failed, there was constant nausea; and, although he was very weak, it was determined to wash out his stomach. This was effected by means of the stomach tube, as the pain and other evidences of acute inflammation had greatly subsided. On withdrawing the tube there was violent retching during the act, and a little bloody mucus, mixed with contents of stomach, welled up by the sides of the tube. A little of this was probably inhaled and found its way into the bronchial tubes. About half an hour after there followed profound shock, then œdema of lungs and profuse frothy expectoration. Two hours later the heart failure was nearly complete, but the lung parenchyma was still resonant on percussion. The most vigorous measures failed to bring more than temporary relief, and within seven hours he died.

Necropsy (eighteen hours after death).—Post mortem lividity and rigor quite marked. General nourishment very poor. Heart and pericardium appeared normal· Aorta: Just below cœliac axis there was a saccular aneurysm, the size of a very small hens' egg, nearly solid with a fibrous laminated clot. Lung, left, œdematous, congested. Its pleural cavity contained some old adhesions, slight, stringy, bandlike, and unimportant. Lung, right, œdematous, congested, pleural cavity contained about 500 c. c. watery serum. Tongue coated, furred. Pharynx inflamed, chronic congestion and follicular inflammation. Stomach large, stretched, walls thin, mucous membrane atrophied, rugæ gone, macerated. Near cardiac orifice considerable area of erosion, hyperæmia—contained bile and semifluid matter. Orifices normal in size. Small intestine more or less inflammatory, congestion over greater part. Large intestine contracted, and attached by old and firm adhesions to gall bladder. Liver appeared normal in size and on section. Gall bladder, was shrunken, contained several light-gray, faceted stones, hard, light, with dark nuclei. Orifice of gall bladder obliterated by old inflammatory adhesion. No inflammation or pus. Kidneys: These appeared normal.

Cause of death.—There was probably a chronic atrophy, dilatation and catarrh of stomach. This, the weak point, was the first to give way under the attack of influenza, which was the determining cause of death. The immediate cause was shock and œdema of lungs, the effect of the procedure for lavage. The aneurysm was practically cured. The gallstones were encysted, and long since about as effectually disposed of as by operation. Neither of these conditions had anything to do with the result of the case, or gave any symptoms.

CASE 5.

Empyema of pleura.

H. D.; aged 53 years; nativity, New York; admitted to U. S. Marine Hospital Chicago, Ill., April 25, 1893; died, May 16, 1893.

History.—Had influenza on admission. Had been treated by a private physician previous to admission, with little benefit. Improvement rapid until three days before death, when he caught cold, and albumen was found in the urine. He died suddenly in epileptiform convulsions, probably uræmic in origin.

Necropsy.—General nourishment was good. *Rigor mortis* marked, and pupils slightly dilated. Lividity was slight. The heart, after opening, weighed 340 grams; the pericardial sac contained about 60 c. c. of fluid. An antemortem clot was found at both the aortic and mitral valves weighing together 60 grams. The left ventricle appeared pale and flabby. The pleural cavity contained adhesions posteriorly, and laterally a large circumscribed collection of pus was found, in amount about 500 c. c. The left lung was somewhat contracted; the right lung enlarged and weighed 550 grams. The liver weighed 188 grams. The kidneys showed evidences of chronic fibroid degeneration, the left less than the right. The left kidney weighed 175 grams, the right 150 grams. The spleen weighed 350 grams and appeared to be in a normal condition. The other organs were not examined.

DIPHTHERIA.

W. R.; aged 20 years; nativity, Missouri; was admitted to the U. S. Marine Hospital, New Orleans, La., January 25; died, January 27, 1893.

History.—The patient was brought in the ambulance from his boat, where he had lain abed for some two or three days, to the hospital. On admission, he was in a state of stupor from which he could with difficulty be roused. Milk and whisky, with soft boiled eggs, were given at frequent intervals, with beef essence and coffee, and the bichloride of mercury in small doses, 0.01 grams, every hour. The stupor gradually deepened to coma, terminating in death.

Necropsy (*eight hours after death*).—Body that of a young, muscular, well-nourished white man. *Rigor mortis* and postmortem lividity marked. Patches of diphtheritic membrane appeared at the angles of the mouth, openings of the nostrils, and around the anus. Throat only examined. Mouth lined with grayish, pultaceous, sloughing masses, which extended to larynx and pharynx, and into posterior nares. Parts swollen and congested, though not greatly reddened.

ENTERIC FEVER.

CASE 1.

Perforation.

H. B.; 17 years old; admitted to St. Vincent Hospital, Norfolk, Va., 9:30 a. m. and died same day, 12:30 p. m., December 2, 1892. Had been in hospital with a continuous fever up to November 21, 1892, when he was discharged, at his own request, to go home, after being warned that he was not well enough to leave. He worked continuously from that day till night previous to his readmittance, while suffering from pains in abdomen and light diarrhea. Condition on examination at 10 a. m.—state of collapse, pulseless, abdomen tender and swollen.

Diagnosis.—Peritonitis probably from perforation of the intestines. He never reacted sufficiently to permit an operation.

Necropsy (*twenty hours after death*).—Light, spare negro, in fair condition as to fat and muscular development. Abdominal cavity full of pus and inflammatory products. Intestines adherent to each other. A perforation at the extreme end of the ileum existed at the site of an old unhealed typhoid ulcer. There were several such ulcers in various stages of repair in the small intestines. Other organs not examined.

CASE 2.

Perforation of intestines—peritonitis.

E. M.; aged 46 years; nativity, Austria; admitted to the marine ward of the German Hospital, Philadelphia, Pa., December 14, 1892, and died December 18, 1892.

Patient was very ill when admitted. A clear history was unobtainable, but it was found that the patient had had a severe diarrhea for about three weeks. He was very much emaciated and weak, and had the appearance of a very old man. The abdomen was enlarged and tympanitic, and tenderness was noted on pressure over the right iliac fossa. The tongue was dry and cracked. On the evening of the 16th of December the temperature rose to 39.5° C.; the following morning the patient was much weaker and the temperature below normal. The patient sank rapidly, and on the evening of the 18th died. He did not seem to suffer much pain, and was conscious to the time of death.

On admission he was given small repeated doses of magnesium sulphate, morphine, and whisky. Later digitalis and strychnia were also given.

Necropsy.—Only the abdomen was examined. It was filled with thin pus. The lower two feet of the ileum were removed with the cæcum. The ileum was opened and large ulcers found throughout the lower portion. The gut was discolored, twisted on itself, and adherent, and one ulcer had perforated, allowing the escape of fæcal matter, causing peritonitis and death.

CASE 3.

I. S.; aged 23 years; nativity, Norway; admitted to Cleveland City Hospital August 6, 1892; died August 11, 1892.

History.—Had been sick more than two weeks, complaining of headache, fever, diarrhea, and vomiting. On admission there was noted tympanites, abdominal tenderness, irregular pulse, coated tongue, involuntary semifluid ochre-colored stools. Delirium soon came on, pulse became very feeble; wholly unconscious before death.

Necropsy (eighteen hours after death).—Livores and *rigor mortis* present. Emaciation. Heart rather small, but normal. Thoracic aorta normal. General recent adhesions of pleuræ on both sides. Both lungs congested. No inflammatory appearance of peritoneum. Small intestine: Peyer's patches and solitary follicles greatly thickened, surface soft, in places shreddy, and a few small "punched-out" ulcers. Large intestine: No ulcers, follicles markedly thickened and soft. Liver fatty, pale brown. Kidneys normal. Spleen about twice normal weight, consistence diminished. Brain not examined.

CASE 4.

F. G.; aged 27 years; nativity, Illinois; admitted to U. S. Marine Hospital, Cairo, Ill., December 26, 1892; died, January 5, 1893.

Necropsy.—*Rigor mortis* marked; general nourishment fair; pupils dilated; heart weight, 451 grams. Pericardial sac contained 50 c. c. light-colored fluid; openings normal and valves competent; cavity normal. Wall of left ventricle soft; right ventricular wall flabby. Aorta and subdivisions normal; nares normal; larynx and trachea congested. Left lung: Weight, 512 grams; pleural cavity normal. Right lung: Weight, 304 grams; pleura normal. Lungs floated, crepitation present, congested. Peritoneum inflamed. Gastrointestinal tract congested. Tongue dry, brown, and fissured. Pharynx normal. Œsophagus and stomach congested. Pylorus normal. Small intestines congested and ulcerated, remarkably so about ileocæcal valve. Large intestine congested, with a few ulcers in cæcum. Rectum congested. Liver slightly enlarged, hard, and congested; right side lighter in color than normal; left side darker than normal; weight, 1,250 grams. Gall bladder empty. Pancreas, weight, 208 grams. Left kidney: Weight 224 grams; capsule nonadherent; surface lobulated. Right kidney: Weight, 216 grams; capsule nonadherent; surface not so lobulated; pelvis and ureters congested. Bladder slightly thickened; suprarenal bodies normal—right weighed 4 grams, left weighed 6 grams; spleen congested, softer than normal, weighed 480 grams. Scalp, skull, and membranes normal. Brain weighed 1,536 grams. Spinal cord and membranes not examined. No microscopic examination. Perforation of ileum, leading to suppurative peritonitis, was the direct cause of death.

CASE 5.

E. S.; age, 23 years; nativity, Finland; admitted to U. S. Marine Hospital, Boston, Mass., January 2, 1893. At time of admission had been sick one week with chills, followed by rise of temperature, headache, anorexia, insomnia, and general malaise, soreness of muscles, dizziness, tinnitus aurum, tongue coated, and diarrhea. At this time there were no spots on skin of abdomen indicative of abdominal typhus. Temperature, 40⅘° C.; slight cough with moist rales; in larger bronchi subcrepitant rales; no tenderness nor gurgling in right ileo-cæcal region; slight delirium of low-muttering type; later, delirium a greater part of time. Died January 20, 1893.

Necropsy (*twelve hours after death*).—Body that of a medium-sized white man, slightly built; right arm and leg more muscular than left; cicatrix on forehead at edge of hair about 1 cm. in diameter. Post-mortem lividity marked on most dependent parts of body and on sides of chest and neck. Post-mortem rigidity well marked. Thorax contained no fluid; pleura nonadherent; trachea and bronchi covered with viscid mucus. Right lung weighed 440 grams, free from pleural attachments; considerable œdema of posterior part, middle and upper lobes; hypostatic hyperemia of posterior part lower lobe right lung. Left lung weighed 400 grams; pleura nonadherent; posterior part of upper lobe somewhat œdematous; posterior inferior parts lower lobe decidedly congested, but no consolidation. Heart in normal position and small in size; in systole at time of death. Occluding right ventricle and passing into pulmonary artery was a large ante-mortem clot. The tissue of the heart was pale and anæmic; its valves competent, but weak and flabby; weight of heart, 290 grams. Spleen soft and pulpy; its tissue easily torn; weight, 150 grams. Left kidney weighed 220 grams; right kidney, 205 grams; both congested; capsule easily peeled; line between medullary and cortical substance well marked. Liver large and congested; gall-bladder normal and full of fluid, ducts patent; weight of liver, 2,040 grams. Stomach empty. Intestines moderately full of gas; at ileo-cæcal valve and for about 2 feet of the ileum above, Peyer's patches were inflamed and some were in stage of ulceration, presenting the characteristic lesions of enteric fever. Some of these ulcers were quite deep, leaving only the peritoneal coat.

CASE 6.

H. C.; age, 22 years; nativity, Ireland; admitted to U. S. Marine Hospital, Chicago, September 9, 1892; died October 1, 1892.

History.—Admitted after over a week's illness. Case progressed favorably for about two weeks, at the end of which time a relapse occurred, with high temperature, diarrhea, and marked typhoid symptoms. The heart held its own, but the respiration was markedly interfered with for some days before death, which almost seemed due to asphyxia.

Necropsy (*October 2, 1892, 11 a. m.*).—Post-mortem lividity and *rigor mortis* both marked. General nourishment poor. Pupils dilated. Circulatory organs normal. The left lung was collapsed and congested at the base, while the left pleura was bound by many elastic but not very strong or close adhesions. In the lower part of the ileum a dozen or more characteristic enteric lesions were found. The liver was large, congested, and pulpy; weighed 1,950 grams. Kidneys were normal, each weighing 250 grams. The spleen was congested and weighed 400 grams.

CASE 7.

A. S.; aged 22 years; nativity, Finland; admitted to the U. S. Marine Hospital, Baltimore, Md., October 15, 1892; died November 6, 1892.

History.—Sick about six days before he came into hospital; complained of pain in the head at first, then through body; felt hot; bowels loose, having two or three stools a day. Stools yellow and of offensive odor. On admission, pulse 84; temperature 37.4° C. Tongue coated and dry; some few rose-colored spots upon abdomen. No tympanites. Gurgling on palpitation, in region of ileo-coecal valve.

Necropsy (*fifteen hours after death*).—*Rigor mortis* well marked. Lungs: The posterior half of both lungs in a state of extreme congestion; this condition more apparent in the left. Lung tissue crepitated, and on section blood and frothy liquid exuded. Pleural cavity: Had a dry, red appearance; absence of liquid decidedly marked. Pericardium: Normal in appearance. Heart: Normal in size; more fat than usual attached to it. Liver: Very much increased in size, extending about 2 inches below line of ribs and across into epigastric and left hypochondriac region; on section presented a yellowish appearance. Hepatic veins in a state of moderate engorgement. Spleen: Twice as large as normal, dark steel-blue color, soft and friable; substance broke on slight pressure into a dark, granular, amorphous mass. Intestinal tract: In a state of inflammation and ulceration for about 5 feet up from the ileo-cæcal valve. Some of the ulcers (about 5 feet above the valve) were 2 by 5 cm. in size and extended down to muscular coat of the intestine. In the region of the valve the ulcers were smaller and more numerous and apparently more advanced. Solitary glands hyperæmic. Mesenteric glands much enlarged and softened; some ruptured, with extravasation of blood into connective tissue of mesentery. All other organs normal.

CASE 8.

Pneumonia—Abscess of the Lung.

F. T.; negro; aged 24 years; nativity, Arkansas; was admitted to the U. S. Marine Hospital, Evansville, Ind., April 7, 1893; died June 5, 1893.

History.—For three weeks previous to admission he had been suffering with intermittent fevér and constipation. On admission to hospital he was found to have high fever, remittent in character, with no rash, but pain in iliac region; no tremor. It was not until the second week that tympanitis was found on percussion; also enlarged spleen, tremor and stupor. His fever ran an irregular course, was very high, and about the third week he began to have hallucinations. A relapse was accompanied by subacute bronchitis and followed three weeks later by hypostatic pneumonia, with dullness and labored breathing, and from this time breathing was confined to the left side. From the time of the pneumonic complications there was a gradual sinking until death.

Necropsy (six hours after death).—General nourishment was very poor; *rigor mortis* imperceptible and pupils dilated. Bed sores were on hips, back, and external condyles of knee joints. On opening the thorax the left pleural cavity was found to be one-third full of fluid. Strong pleuritic adhesions were found both to chest walls and pericardial sac, especially on lower lobe. Left lung was in a highly congested condition, especially in the center. The walls of right pleural cavity had coalesced and were adherent to chest wall. The right lung was found contracted, and presented two large gangrenous abscesses. The blood indicated a condition of profound anæmia, and no coagulation had taken place. Pericardial sac was found nearly filled with viscid fluid. Heart was found in a condition of fatty degeneration, soft, flabby, and the walls of the ventricles were collapsed; the valves were normal. Spleen was enlarged and in a degenerated condition. Liver: Somewhat enlarged, soft, and adherent to intestines, kidneys, and diaphragm. Intestines: Catarrhal condition existed throughout small and large intestines. Ulcers were found which involved Peyer's glands, and the solitary follicles of transverse colon. In the small intestine ulcers were found just beginning to be covered with thin granulation tissue. There were also large ulcers found in the cæcum and colon. In the ileocæcal valve two large ulcers were found which were beginning to heal.

CASE 9.

J. M.; aged 23 years; nativity, Nova Scotia; diagnosis, enteric fever; admitted U. S. Marine Hospital, Vineyard Haven, Mass., August 25, 1892; died September 9, 1892.

Clinical history.—For past twenty days had been ill with headache and diarrhea of a yellowish color. Five days ago had chills and fever, and on admission had high fever; was somewhat delirious and very week. Body was covered with a light rose-colored rash, which disappeared in two days. Rose papules found on abdomen. Patient soon sank into a comatose state, had involuntary passages, was unable to swallow, and had to be nourished by enemata. Pulse was fairly strong though dichrotic. Died suddenly of heart failure September 9, 1892.

Necropsy (twenty-six hours after death).—Body much emaciated; no lividity or *rigor mortis.* Contents of thorax examined and found normal, except right lung, which showed evidences of old tuberculous disease. Abdomen opened and peritoneum found adherent to small and large intestines about ileo-caecal valve. Small intestine near valve contained thirteen large typhoid ulcers and several cicatrices of older ulcers evidently of recent date; liver congested; spleen enlarged and congested; kidneys congested, otherwise normal; bladder normal.

CASE 10.

M. J.; aged 30 years; nativity, Maine; admitted to the U. S. Marine Hospital, port of Boston, Mass., June 28, 1892; died July 5, 1892. He was very feeble on admission and no history could be obtained; low delirium; bowels rather loose, having about two operations daily. No appetite; very red and furred tongue; some tenderness in right iliac region. Patient occasionally recognizes those about him when he is spoken to. June 29, quinine sulphate produces no effect on the temperature.

Necropsy (*twenty-four hours after death.*—Post-mortem lividity present; *rigor mortis* present; general nourishment fair; pupils dilated. Pericardial sac normal. Weight of heart 285 grams. Cavities and walls of heart normal, valves competent. Extensive and very deep ulcerations of Peyer's patches for about 38 centimeters from ileo-caecal valve. Peritoneum very much congested along the site of the ulcers. Weight of liver 1,590 grams. Color normal. Kidneys normal in appearance; weight, left 142 grams; right 150 grams. Spleen congested; weight, 815 grams. Lungs normal in appearance.

CASE 11.

S. P.; aged 34 years; nativity, Maine; admitted to the U. S. Marine Hospital, Boston, Mass., September 20, 1892; died October 7, 1892.

This patient was admitted for pain in back, supposed to be due to sprain. In a few days he developed marked symptoms of typhoid fever. Patient was very stupid and a history was received with considerable difficulty.

Necropsy (*four hours after death*).—Post-mortem lividity considerable; *rigor mortis* present; general nourishment poor; pupils contracted. Ventricles and walls of heart normal; all valves competent; weight of heart, 252 grams. Pericardial sac normal. Left lung normal and without an adhesion; lung proper normal, save hypostatic congestion; weight, 592 grams. Right lung normal; no adhesion; hypostatic congestion; considerable bronchitis in finer tubes; weight, 677 grams. Ileum congested throughout with three ulcerated Peyer's patches; no perforation. Liver normal, save hypostatic congestion; color normal; weight, 1,665 grams. Gall bladder distended with yellow bile; no stones. Left kidney: capsule strips freely; structure looks normal; weight, 182 grams. Right kidney: capsule not adherent; structure normal; weight, 167 grams. Suprarenal bodies normal. Spleen looks larger than normal; capsule strips; weight, 316 grams.

CASE 12.

W. H.; aged 28 years; born in Texas; admitted to U. S. Marine Hospital, Louisville, Ky., October 15, 1892, on a diagnosis of diarrhea; readmitted October 22, with enteric fever; died October 25, 1892.

Necropsy (*ten hours after death*).—Heart and lungs apparently normal. Spleen greatly enlarged. Stomach natural in appearence. In the small intestine there were a number of ulcers and in the ileum, Peyers glands were enlarged and appeared as if excavated. Liver and kidneys not noticeably changed. No other organs examined.

CASE 13.

Perforation.

C. J.; aged 25 years; nativity, United States; admitted to the marine ward, German Hospital, Philadelphia, Pa., January 26, 1893; died February 5, 1893.

Patient was brought in the ambulance, and in the first week exhibited the signs and symptoms of typhoid fever. Milk diet, sponge bath, phenacetin and quinine were ordered. The temperature at times rose to 40° C. On February 1 the temperature fell to 36° and then rapidly rose to 40°. The abdomen became very tender and tympanitic. Hiccoughing and vomiting commenced, patient failed rapidly, and died in collapse.

Necropsy revealed the following: The heart had undergone granular change. Lungs congested and œdematous. Stomach normal. Liver and spleen enlarged. The abdomen contained pus and the intestines were inflated and full of gas. A portion of the gut was opened and ulcers were found throughout the lower 66 centimeters of the ileum. At a point 5 centimeters above the ileo-caecal valve a perforation had occurred and there was an area of inflammation about it. The walls of the gut were boggy and oedematous.

Case 14.

J. J.; aged 27 years; nativity, Norway; was admitted to Marine Hospital, Stapleton, Staten Island, November 14, 1892; died December 12, 1892.

History.—Patient stated that for two weeks he had been suffering from irregular slight chills followed by fever. At time of admission there were vertigo, dyspnœa, cough, anorexia, and constipation. Temperature 39° C., pulse 68, respiration 20. His body was well nourished. Face was red and flushed. Center of tongue was covered with a dirty white coat, the edges were red. Mucous rales were heard in both lungs. Heart normal. Liver and spleen apparently normal. Papular eruption on shoulders, back, chest, and legs. During the succeeding days the usual symptoms of enteric fever presented themselves. November 29 his temperature was normal and remained so for forty-eight hours. December 1 it began to rise, and on the night of the 3d it reached 40.2° C. On the evening of December 7 patient complained of severe pain in the abdomen. At midnight there were two large evacuations from the bowels, each containing a considerable quantity of fresh blood. Next morning patient appeared weak and feeble, pulse was rapid, respiration hurried. The hemorrhage evidently so exhausted his vitality that he could not rally. Subsultus tendinum and delerium came on, patient gradually failed, and died December 12, 1892.

Necropsy (twenty-three hours after death).—Both lungs were pale and collapsed; right was adherent to diaphragm; left was adherent at apex and base; both lower lobes were congested. Heart reduced in size; the valves were normal. Liver was pale and adherent to diaphragm. Spleen about twice its normal size, dark colored, and tough under the knife. Peyer's patches in the lower part of the ileum were enlarged and ulcerated. Solitary follicles were in the same condition. The lower end of the vermiform appendix was ulcerated and contained a small quantity of pus.

INTERMITTENT FEVER, COLITIS, AND ULCERATION OF THE STOMACH.

J. Z.; aged 39 years; a native of England; admitted to the Marine Hospital, St. Louis, Mo., July 23, 1892; died August 2, 1892.

Family history was good.

Personal history.—He has had malarial fever seven or eight times; gonorrhea ten times. He had a sore on his penis in 1875, followed by an eruption on his skin. When admitted he said he had several thin stools daily. He complains of tenderness on pressure along the colon. His bowels have been in this condition during the last six weeks. On the day before he was admitted he said he had a chill, followed by a fever. His stools have never been so frequent since he was in the hospital in April. He continued to have some fever after his admission. The highest temperature was 39.4° C., which point was reached July 25, 1892. From July 26, 1892, his temperature was less than 1° above the normal until just before death, August 2, 1892, when it was 39° C.

Necropsy (*nineteen hours after death*).—*Rigor mortis* well marked. Parotid gland of left side swollen. No external evidence of syphilis. Lungs: Left lung and pleural cavity normal; right pleural cavity obliterated by firm pleuritic adhesions. Hypostatic pneumonia in posterior part of right lung. Weight of right lung 1,650 grams; of left, 735 grams. Spleen: Soft, capsule easily removed; weighs 280 grams. Kidneys small; otherwise normal. Beginning atheroma in aorta and on posterior flaps of mitral valves. Stomach congested in patches around cardiac orifice, and in places the mucous membrane shows ulceration. Twenty-five centimeters of the first part of the large intestine were intensely congested and contained several ulcers. In the sigmoid flexure the colon had many ulcers.

INTERMITTENT MALARIAL FEVER.

A. H.; aged 25 years; nativity, Norway; admitted to the U. S. Marine Hospital, Boston, Mass., November 2, 1892; died same day.

Patient was moribund when admitted to hospital and unable to swallow; he died three and a half hours after admission. He was brought to Boston from Provincetown on a steamer and left on the wharf, from which he was taken by the driver of a herdic and brought here. It was learned that he had had a severe chill every day for a week. On admission the temperature in the axilla was 39° C.; pulse full and regular; breathing somewhat labored and rales, indicative of profuse bronchial secretion, partly filling smaller tubes and embarrassing respiration; impairment of vesicular resonance.

Necropsy (*seventeen and a half hours after death*).—Post-mortem lividity slight. *Rigor mortis* marked. General nourishment good. Skin presented slight yellowish or jaundiced hue, evidently due to the breaking down of the blood, caused by malarial poisoning. Pericardial sac normal; contained about 30 c. c. of straw-colored fluid. All valves of heart competent; walls and cavities of ventricles normal; right ventricle contained small ante-mortem clot; weight, 336 grams. Both lungs deeply congested; bronchial tubes contained much mucus, due to bronchitis; weight, right 737 grams, left 527 grams. No pleuritic adhesions. Peritoneum congested. Liver very deeply congested; hepatic veins widely distended with fluid blood; normal in color; weight, 2,650 grams. Capsules of both kidneys strip freely. Kidneys much congested, but otherwise normal in appearance; weight, left 235 grams, right 250 grams. Spleen about double normal size, quite soft and congested; capsule not adherent; weight, 435 grams. Membranes of brain congested and sinuses very full of blood; free exudation of blood from puncta vasculosa on section of brain; weight, 1,495 grams. Microscopical examination of the blood showed an abundance of the malarial semi-lunar filaria of Osler in the corpuscles. Death due to profound malarial poisoning and subsequent exposure.

MALARIAL FEVER, REMITTENT.

CASE 1.

Waxy kidney.

S. McG.; aged 23 years; nativity, Arkansas; was admitted to the U. S. Marine Hospital, New Orleans, La., December 30, 1892; died January 14, 1893.

History.—Patient stated he had had a case of syphilis three months previously, but had recovered. For eight days previous to admission had a daily chill lasting from noon to 8 p. m., followed by high fever and heavy sweats. Abdomen slightly tympanitic, and painful on pressure. Heart sounds somewhat obscure. Temperature on admission 39.2° C., pulse 102, weak; respiration 30, superficial. Bowels sluggish. The patient was given a hot bath, put to bed, a brisk purgative given, and prompt and full doses of quinine. These proving unavailing, Lugol's solution of iodine and carbolic acid, with stimulation and enforced nourishment, were exhibited. The temperature continued high, and was apparently unaffected by treatment. The patient sank into stupor and died at 9.20 p. m.

Necropsy (*thirteen hours after death*).—Body that of a muscular, somewhat emaciated, young negro man. Heart, weight 282 grams, coated with fat; tricuspid valve incompetent, and leaflets perforated. Lungs congested hypostatically, but with the plural cavaties normal; weight, left 320 grams, right 335 grams. Large intestine showed several small ulcers in mucous coat, with invagination to extent of 4 cm. Liver normal; weight, 1,995 grams. Gall bladder distended with bile. Kidneys softened and waxy; capsules detached with difficulty; weight, left 267 grams, right 252 grams. Glands of mesentery enlarged and very hard. Spleen, weight 317 grams, soft; on section numerous white points were found.

Case 2.

Pericarditis.

H. W., colored; aged 22 years; a native of Missouri; admitted to the Marine Hospital, St. Louis, Mo., October 25, 1892; died November 2, 1892.

Family history not good. Has never been sick but once before. In 1890 he was sick in the Marine Hospital at New Orleans, La. He has had a diarrhea twenty days. Five days before admission he was confined to his bed with a pain in his tooth. He says the pain from his tooth went to his head, and then to his shoulders. He had a slight cough. He has not had any chill. Appetite poor. Says he had not eaten anything for a week before his admission. He complains of slight nausea. Sputa slightly tinged with blood. No dullness. A few coarse rales. Respiration rapid and variable, sometimes 30 and sometimes 25 per minute. There was a rise of temperature of two degrees every evening, falling to 38° C. each morning.

Necropsy (*thirty-six hours after death*).—The heart was covered with false membrane. There were 150 c. c. of fluid in the pericardium. The spleen was much enlarged, its tissure soft and pulpy. It weighed 835 grams. Liver enlarged and tissue soft. It weighed 2,450 grams.

Case 3.

T. S.; aged 23 years; born in Ohio; admitted to U. S. Marine Hospital, Louisville, Ky., April 16, 1893; died April 19, 1893.

Necropsy (*twelve hours after death*).—Right pleuritic adhesion to small extent. Right lung somewhat congested. Heart hypertrophied. Spleen large and congested. No noticeable changes in other organs.

Case 4.

M. M.; aged 26 years; a native of Ohio; admitted to the Marine Hospital, St. Louis, Mo., on August 30, 1892; died September 2, 1892.

His family history was good. Had an ulcer on his penis three months ago. Three days ago he began to have pains in the back of his neck and in his back. He vomits occasionally. He has a chill followed by a fever every second day. Has no desire for food.

Necropsy (*eight hours after death*).—All viscera normal except the spleen. The spleen was very much enlarged. Capsule adherent to peritoneum. There were fibroid patches on the convex surface. Capsule much thickened. The substance of the spleen was dark brown in color and soft. The whole substance of the spleen was disorganized. The constituent elements were not recognizable. It weighed 600 grams.

PERNICIOUS MALARIAL FEVER.

J. B. (colored); aged 44 years; nativity, Missouri; admitted to the U. S. Marine Hospital, Cairo, Ill., September 30, 1892; died October 1, 1892.

History.—Patient was brought in by the ambulance in a semi-comatose condition, and was unable to give any account of himself. Was given hot sponge bath immediately and placed in bed; eyes half-closed, lips separated, tongue heavily coated with light-brown fur. Respiration was 25 per minute, and labored, alæ of nose working at each attempt. Pulse at wrist was hardly preceptible, rapid, weak, but regular. Temperature in the axilla was 39° C. Extremities cold to knees and elbows. The pupils were normal. Stimulants were administered at once in repeated doses. Patient gradually sank; could take no nourishment.

Necropsy.—Rigor mortis marked. Pupils somewhat dilated. General nourishment fair. Pericardial sac obliterated by recent adhesions. Heart weighed 378 grams; aortic valves calcareous; vessels normal. Nares, larynx, and trachea normal. Pleural cavities normal. Left lung, lower lobe œdematous; both lungs congested. Peritoneum normal. Digestive tract normal. Liver weighed 1,554 grams, hyperæmic and of pulpy consistence. Gall bladder normal. Pancreas slightly injected. Kidneys congested; weight of each, 140 grams; capsule nonadherent. Bladder empty. Prostate and urethra normal. Spleen enlarged, hyperæmic, and pulpy; weight 308 grams. Brain congested. Cord not examined.

BERIBERI.

J. M.; aged 30 years; nativity, Nova Scotia; admitted to U. S. Marine Hospital, Vineyard Haven, Mass., August 21, 1892; died August 24, 1892.

Clinical history.—After several months' residence in Brazil, patient shipped on *Rosa Mueller*. Twenty days before admission, was taken sick with severe darting pains in feet, which soon became œdematous. The pains increased and were felt in legs, then the thighs, back, and then became general. The œdema followed the pain as far as the waist, the hands and face not being affected. Had several vomiting attacks, and on admission was unable to retain any food at all. Bowels were constipated; urine scant and high-colored. Examination showed marked œdema of legs and abdomen. Patient complained of intense pains in back, shooting around over abdomen and into thighs. After admission appetite was good and bowels regular, but pains continued and suppression became more marked each day, the amount of urine passed being about 10 ounces, yellowish and opaque. Pulse good and temperature normal; vomiting ceased. Suddenly, and without any delirium or coma, patient died.

Necropsy (*twenty-six hours after death*).—Body well nourished; *rigor mortis* slight. Heart: Cavities enlarged, walls thinner than normal, cavities filled with clots. Heart tissue softened and fatty; pericardial sac contained some serous fluid. Lungs normal; pleural sacs contained slight amount of reddish serous fluid. Other organs normal, except kidneys and bladder. There seemed to be but one kidney, semicircular in shape, much larger than two normal kidneys, resting on each side and across spinal column. The two ureters were normal. On section kidney appeared dark and was hard to the touch, but macroscopical appearance indicated a perfectly healthy kidney. Bladder congested and thickened. Prostate large, slight stricture existed in membranous urethra.

PHAGEDÆNA OF THE GROIN.

Catarrhal inflammation of the intestines.

W. A. (colored); aged 28 years; a native of Missouri; was admitted to the Marine Hospital, St. Louis, Mo., on June 7, 1892, and died July 9, 1892.

History.—Aside from venereal diseases he has always been well. Nine months ago an ulcer appeared on his penis which he could not cure. Three months ago the inguinal glands became inflamed. These glands suppurated, and the skin was destroyed. Four glands appeared on the base of an ulcerating surface. In size the smallest was as large as the meat of a Brazil nut; the largest twice that size. The suppurating surface was 10 cm. long, 8 cm. wide, and the glandular part 2 cm. in elevation. There was an evening rise of temperature of 1°. He had slight dyspnœa. June 21 all of the glands that could be reached were removed. The inguinal, femoral, superficial, and deep, and some of the pelvic glands were removed. The operation was deferred several days on account of phlebitis of the femoral vein and œdema of the right leg. All of the pelvic glands were not removed because the debilitated condition of the patient would not warrant it. The patient did well after reaction was established. On July 7, 1892, he began to fail fast from catarrhal inflammation of the intestines. His temperature was 40.1°C. on the 7th of July. July 8 it was, in the morning, 36.8°C. July 9, in the morning, it was 36.4°C. He died at 10.45 a. m.

Necropsy.—Pupils dilated. *Rigor mortis* not well marked. Wound by which the glands were removed was 20 cm. long, four-fifths of which was below Poupart's ligament, 13 cm. in breadth, and 5 cm. deep. The transversalis fascia and peritoneum form the floor of the upper part of the wound. The spermatic cord was exposed from the internal ring to the pubic bone. The walls of the long saphenous vein are greatly hypertrophied and feels like a small cord. There is a small lumen. There is a clot in the femoral vein 8 cm. from Poupart's ligament. The thrombus proper is 2 cm. long. The other parts of the thrombus are formed one above and one below the thrombus proper. The part above the original thrombus extends to the opening of the profunda vein. The whole thrombus is 11 cm. long. The right femoral artery is thicker than the left. There are suppurating glands along the outer and inner side of the right external iliac artery. The intima of both right iliac vein and artery is smooth. Spleen: Enlarged, weighed 400 grams. Kidneys: Capsules of both easily removed; right soft and friable; left contained several retention cysts. Heart: Normal; stopped in systole. Aorta atheromatous. Liver: The liver was covered on its external surface with white and gray patches, slightly elevated; the gray patches are larger than the white. There is a chain of lymphatic glands in various stages of degeneration, extending from the wound to the under surface of the liver.

SECONDARY SYPHILIS.

Case 1.

Ulceration of the epiglottis—Tuberculosis of the lungs.

W. F.; aged 28 years; nativity, Ireland; admitted to U. S. Marine Hospital, Chicago, Ill., April 10, 1893; died June 9, 1893.

History.—When admitted the most prominent symptoms were those referable to the throat. There was great hoarseness, with pain and difficulty on swallowing. A peculiarly disagreeable odor was emitted from the throat. Laryngoscopic examination showed a lateral ulceration of the epiglottis, which had proceeded to such an extent as to destroy one side of the organ. The loss of epiglottidean substance resulted in the frequent passage of particles of food into the larynx, producing violent attacks of dyspnœa and subacute laryngitis and œdema. The patient gave a history of syphilis, and was put upon specific treatment. He grew thinner, however, and his strength gradually failed. He could not talk above a whisper. Toward the end he had cough, and examination showed that a tubercular condition of the lungs existed, becoming constantly more aggravated. He died on the sixtieth day after admission.

Necropsy.—The general nourishment of the body was extremely poor. *Rigor mortis*, slight. The heart was pale and flabby and weighed 300 grams. The valves were competent. Respiratory organs: The larynx and upper portion of the trachea were removed. The whole interior of the larynx was found to be highly œdematous, as were also the vocal bands. The left lung weighed 1,270 grams, the right 1,380 grams, and both were the seat of disseminated tuberculosis, and the left of a localized emphysema. The epiglottis showed no further changes than had been discovered on laryngoscopic inspection. The other organs of the body were not examined.

CASE 2.

Thrombosis of middle cerebral artery—Congestion and œdema of lungs.

H. J.; aged 50 years; nativity, California; was admitted to U. S. Marine Hospital, Chicago, Ill., July 7, 1892; died July 8, 1892.

History.—This patient had been in this hospital a few months previous to last admission, and was at that time under treatment for secondary syphilis, which manifested itself principally in the pharynx and larynx. These conditions disappeared under antisyphilitic treatment, and patient left hospital May 16, 1892. Whether this treatment was continued after leaving is not known.

July 6.—He was brought to hospital in police ambulance; was in an unconscious condition. Examination revealed no injury; but he had hemiplegia of right side, not however involving the face. Corners of mouth were not drawn to either side; movements of eyes and eyelids perfect; tongue protruded without deviation. There was no impairment of sensation of touch or pain; pupils were normal; patellar and plantar reflexes present. He was dull and listless, made no attempt to speak, and did not seem to understand when spoken to; audition and vision were apparently unimpaired. Pulse, 48 per minute; evening temperature, 35.2° C.

July 7.—Temperature at noon, 36° C.; in evening, 36.2° C. Breathing was at no time difficult, irregular, or sterterous; 18 per minute. Urine drawn with catheter; no movement of bowels. With some difficulty he was made to swallow a little brandy and water; has vomited bilious matter several times.

July 8.—Shortly after an attack of vomiting a quantity of serous, greenish fluid, the patient died; pupils were somewhat dilated and there was a little froth in the mouth.

Necropsy (five and a half hours after death).—Height, 147 cm., circumference at shoulders, 100 cm.; post-mortem lividity marked; *rigor mortis*, slight; general nourishment very good; pupils slightly dilated. Nares filled with œdematous fluid; left lung weighed 700 grams; right, 870 grams; there were no adhesions in the pleural cavities, and in the apex of each lung there was a cicatrix without adhesions. Peritoneum was normal. Both lungs were congested. The mucus membrane of the stomach was congested mostly toward the cardiac orifices. Large intestine was distended with gas at sigmoid flexure. Gall bladder and ducts full of bile. Kidneys were both intensely congested; their combined weight normal. On the scalp there was a contusion 2 cm. square over muscular attachment to middle of temporal ridge, not visible externally. On removing calvarium the longitudinal sinus was ruptured, and a large amount of blood escaped. The membranes of the brain were congested and somewhat œdematous. There were some firm adhesions to dura in median line about the vertex. Weight of brain normal; softening general on the left side; most marked about Island of Reil and anterior and middle lobes; thrombosis of middle cerebral artery. About 200 c. c. serum were removed from left tunica vaginalis; testicle enlarged and peculiarly flattened. The patient was known to have had severe manifestations of secondary syphilis a few weeks before. The course of the case as observed would indicate thrombosis as a result of syphilitic atheroma; first, in the left middle cerebral. From this, the condition when admitted, he was considered in a fair way to partially recover. Later, by an increase in the size of the clot, the other branches of the left internal carotid were gradually occluded, bringing on extensive congestion and œdema of the meninges, softening of the brain, and such interference with respiration and cardiac action that congestion of lungs and œdema resulted.

CASE 3.

Hepatic gummata.

S. S.; aged 41 years; nativity, Maryland; was admitted to Marine Hopital, Stapleton, Staten Island, October 13, 1892; died December 22, 1892.

History.—Patient had been vomiting occasionally for three months. Ingestion of food produced pain in the epigastrium, which was relieved by vomiting. There was considerable thirst; cough, with a moderate amount of whitish expectoration, caused some annoyance. Bowels were fairly regular. He had used alcoholic drinks to excess for years. Body was poorly nourished. Tongue covered with a light gray coat. Respiratory murmur was feeble, and mucous râles were heard in both lungs. Abdomen tympanitic. Very tender just below xiphoid cartilage, also over entire upper part of the abdomen. Deep pressure could not be made because of excessive tenderness. Patient vomited very little after admission. The pain persisted, but was relieved by small doses of opium. Diarrhea alternated with constipation. Tympanitis continued. The appetite, poor and capricious from the first, gradually failed and with it the patient's strength. He evidently died from inanition.

Necropsy (*twenty-one hours after death*).—*Rigor mortis* marked. Body extremely emaciated. Pericardial fluid normal. Heart very small. Antemortem clots in pulmonary veins and right ventricle. The valves were normal. Lungs small and congested. Peritoneal cavity contained a large quantity of serous fluid. The intestines were distended with gas. Liver increased to twice its normal size. The surface was covered with gummata, varying in diameter from 5 to 15 cm. It was tough under the knife, and the gummata extended through the liver substance. Many of the larger ones had broken down, and in their centers was thin, dirty pus. Stomach contracted to one-half its normal size. The walls were thickened, and about the pylorus they were 1 cm. in thickness and as tough as cartilage. The spleen was about 5 cm. in diameter, pale and tough. Pancreas contained gummata and was adherent to the transverse portion of the duodenum. The kidneys were very small and pale, malpighian pyramids indistinct; cortex, thin. Bladder contained a small quantity of pale urine.

CASE 4.

Colitis.

P. R.; aged 29 years; nativity, Louisiana; was admitted to the U. S. Marine Hospital, New Orleans, La., May 2, 1893, and died May 14, 1893.

History.—The patient had been in failing health for some months. On admission he was much emaciated; intellection slow; temperature and pulse normal; complained of pain in right side of head. The abdomen, scrotum, and inner aspect of thighs were thickly covered with a dry, scaly eruption. Glands enlarged throughout. Frequent and annoying dysenteric dejections, which toward the end were passed involuntarily, rapidly reduced him. A guarded specific treatment with tonics and stimulants was begun, but abandoned for sedative and supporting measures. Coma was followed by death in ten hours.

Necropsy (*ten hours after death*).—Body that of a muscular, very black, negro man, extremely emaciated, with frequent spots of scaly eruption. *Rigor mortis* well marked. The arteries throughout were atheromatous; heart fatty, lungs slightly adherent to chest walls; weight, left 557 grams, right 554 grams. No tubercles found. Pleural cavities almost obliterated. Liver somewhat fatty; weight, 1,572 grams. Kidneys loaded with fat and congested; weight, left 469 grams, right 380 grams. Spleen soft; weight, 205 grams. On removing the brain cap the membranes were found studded with syphilitic tubercles, especially on right side in mastoid region. Brain, weight 1,380 grams. A large umbilical, easily reducible hernia, which was evidently of long-standing, was found.

CASE 5.

Tumor and abcess of the cerebrum and cerebellum.

W. R.; aged 25 years; nativity, Tennessee; negro; admitted to U. S. Marine Hospital, Evansville, Ind., April 20, 1892; died July 11, 1892.

History.—Primary syphilis two years ago, followed by but few of the ordinary manifestations of secondary syphilis. In January, 1892, had a transitory attack of paralysis affecting the left hand, accompanied by twitching of the muscles of the left forearm and arm; tinnitus aurium, vertigo, disturbances of vision, and loss of muscular power in the left side generally. Present condition: Bowels constipated, frequent vomiting, especially in the evening, pulse irregular, temperature normal. Right tendon reflex absent, slightly decreased on left side. Has headache on right side, vertigo, and staggering gait. Sensation almost abolished in left upper extremity, and frequent twitching of muscles, chiefly in left hand. Dynamometer, right hand 47½, left 8½.

April 29.—Under influence of large doses of potass.-iodide and mercurial inunction there has been considerable improvement. Now has no headache, less frequent attacks of vertigo, and voluntary movements are more coordinate. Still has twitching of the muscles of left extremities and face. Dynamometer, right 62, left 23.

May 6 to 10.—Severe headache and feeling of constriction, diplopia, vertigo, and muscular twitching. Dynamometer shows muscular power in left hand increasing.

June 3.—Symptoms more severe; voice husky, dry cough, strabismus, and fever in the evening. During June the symptoms increased in severity, patient grew weaker from the continued fever, vomiting, etc. The voice was almost entirely lost, and double vision was constantly present. Later there were hallucinations; the vital functions gradually declined, and death from exhaustion occurred July 11.

Necropsy (*eleven hours after death*).—*Rigor mortis* was established. Heart, left ventricle hypertrophied; right, dilated and wall thin, valves competent. Lungs, old pleuritic adhesions on both sides, and both lungs contained numerous hard cheesy nodules. Liver, normal; pancreas hard and adherent to spleen, the latter being very large and soft; mesenteric glands very much enlarged. Kidneys both lobular and of rather large size, but otherwise normal. Brain and membranes: Dura adherent along margins of longitudinal fissure, arachnoid congested, opaque, and contained considerable fluid. Four gummatous tumors, each about two and one-half centimeters in diameter, found in the superior frontal and superior parietal convolutions along the margin of the longitudinal fissure. They all involved the gray matter, and extended into the white. The one in the frontal convolution had undergone partial softening and absorption. The left cerebellum was almost entirely destroyed by a nodular cheesy growth, which had partly broken down, and contained in its center a quantity of thin, watery pus.

ALCOHOLISM.

CASE 1.

Lobar pneumonia.

P. T.; aged 46 years; nativity, Ireland; admitted to the Marine Hospital at Chicago, Ill., May 24, 1893; died May 30, 1893.

History.—The patient was a chronic alcoholic. Just previous to admission he had started upon a large and what promised to be a protracted spree, but he developed delirium tremens and was sent to the hospital. On admission he had fever, and examination showed the existence of consolidation on the right side, and very suspicious signs on the left. The patient became delirious and remained so until death, which took place on the seventh day after his admission to hospital.

Necropsy.—The general nourishment was good. The heart was normal and weighed 420 grams. The left lung was much congested, and weighed 650 grams. The right lung was very heavy, weighing 1,560 grams; the upper lobe was completely hepatized, while the remainder of the lung was congested. The liver was light in color, weighed 2,469 grams, and showed increase of connective tissue and amylosis. The kidneys were sclerotic to a slight degree, the left weighing 200 grams and the right 290 grams. So far as macroscopic appearances were concerned, the other viscera were normal. The spleen weighed 250 grams.

Case 2.

Cerebral hemorrhage.

D. J. H.; aged 42 years; nativity, Canada; admitted to U. S. Marine Hospital, Chicago, Ill., April 25, 1893; died April 28, 1893.

History.—On admission was suffering from alcoholism. He complained of some pain in the face, apparently due to neuralgia of the third nerve. Soon after admission, without noticeable premonition, he became unconscious, showing signs of cortical irritation, the most noticeable being spastic contraction of the fingers and arm (left). During the 27th he became much weaker and was given hypodermatic injections of digitalis and whisky, and hot bottles were applied to the extremities. All efforts proved unavailing, and on the following day, April 28, 1893, the patient died.

Necropsy.—The body was fairly well nourished; there was considerable post-mortem lividity, and very marked *rigor mortis.* The pupils were dilated. Nervous system: The head and scalp were normal, and when the latter was removed there were no visible signs of injury to the skull. The calvarium was then removed; the dura mater, arachnoid, and pia were all congested. Blood was found extravasated over a considerable portion of the right hemisphere in front of the fissure of Rolando and above the fissure of Sylvius. No distinct ruptured vessel could be found. The brain weighed 1,500 grams. The other viscera were not examined.

ACUTE ALCOHOLISM.

Lobar pneumonia.

J. L.; aged 36 years; nativity, New York; admitted to U. S. Marine Hospital, Chicago, Ill., March 10, 1893; died March 17, 1893.

History.—Was suffering from acute alcoholism when admitted; developed lobar pneumonia in right lung shortly after, and died on the seventh day.

Necropsy.—Body well nourished; lividity marked, as was *rigor mortis;* pupils normal. Pericardial sac thickened, and contained a small amount of fluid. Heart normal and contained post-mortem clots. The left lung was congested; weight, 680 grams, otherwise normal. Right lung was seat of inflammation, involving the whole of the lower lobe, and was in the stage of red hepatization; weight, 1,880 grams. Liver was enlarged; connective tissue increased, was lighter in color than normal, and congested; weight, 2,810 grams. Both kidneys seat of chronic interstitial nephritis, with increased connective tissue; markings distinct; weight of left, 265 grams; right, 240 grams. Spleen enlarged; connective tissue increased, and congested. Other organs not examined.

RHEUMATIC FEVER.

Endocarditis; aortic and mitral lesions.

J. P.; aged 59 years; nativity, New York; was admitted to Marine Hospital, Stapleton, Staten Island, N. Y., November 16, 1892; died December 10, 1892.

History.—Patient had been suffering for one week with pain and tenderness in right wrist, both shoulders, and left ankle; had cough with white, frothy sputa; suffered from palpitation of the heart and dyspnœa on exertion; said that he had syphilis several years ago; physical examination showed a well nourished body; tongue free from coating, but large and flabby; coarse and fine mucous râles heard over both lungs; there was an aortic obstructive and a mitral regurgitant murmur; right wrist and left ankle swollen, very tender and painful. Rheumatism left him in about ten days. His bowels were sluggish from the first, and December 5 symptoms of enteritis appeared, which persisted till his death. At midnight, December

10, patient had an attack of heart failure from which he rallied. During the afternoon of December 11 he arose from bed and attempted to walk across the ward, but had taken only a few steps before he fell. He was found pulseless and gasping for breath; surface of body suffused with cold sweat; face cyanotic. Hypodermic administration of heart stimulants revived him temporarily, but in a few minutes the signs above-mentioned reappeared. The heart failed to respond to stimulants and the patient died at 4:15 p. m. The pupils were at first unequally contracted, but later both dilated.

Necropsy (eighteen hours after death).—There was marked post-mortem rigidity and hypostatic congestion. Brain apparently normal. Both lungs in situ appeared partially collapsed. Lower lobe of the right lung adherent in places to the chest wall; base congested. Left lung adherent at the apex; congested at the base. Left ventricle of the heart hypertrophied; right dilated. Segments of aortic valve atheromatous. The mitral and tricuspid valves were thickened and covered with vegetations. Liver venously congested and slightly fatty. Spleen and kidneys apparently normal.

RHEUMATISM, ORGANIC STRICTURE OF THE URETHRA, AND MALARIAL FEVER, INTERMITTENT.

A. W., aged 51 years; a native of Tennessee; admitted to the U. S. Marine Hospital, St. Louis, Mo., March 5, 1893, and died April 8, 1893.

Patient had been a man who drank a great deal of whisky. He usually had a spree every month. While on a spree he ate scarcely anything, and slept where night overtook him. While on one of these sprees just before his admission he was out in a storm. After that he suffered considerable pain in various joints. It was for this pain that he first applied for relief. He had had malarial fever several times. He was readily relieved of his pains. He also had an organic stricture of the urethra. For this he was operated on March 27, 1893. March 30 he had a chill. He had a chill every second day thereafter until he died. There were no signs of pus forming anywhere, and the chills were considered to be due to malaria. The stricture was easily dilated and sounds readily passed. His kidneys did not perform their function satisfactorily, and during the last two days that he lived not more than 500 c. c. of urine were excreted. During the last twenty-four hours not more than 100 c. c. of urine were excreted.

Necropsy (twelve hours after death).—*Rigor mortis* well marked; has a cicatrix in left groin and one on right leg at the junction of the middle and lower third. Lungs: Old pleuritic adhesions of both lungs, more extensive on right side; right lung slate-colored in patches, and right upper lobe gangrenous. There were small cavities in the right upper lobe, full of a grayish-black fluid. Weight of right lung 1,300 grams; left upper lobe emphysematous; lower lobe hypostatically congested; weight, 737 grams. Heart, normal; weight, 410 grams. Spleen enlarged, soft and ready to break down; weight, 596 grams. Kidneys normal; right weighed 220, left 260 grams. Liver much enlarged; weighed 2,632 grams.

SCIRRHUS OF STOMACH AND PANCREAS.

A. A.; aged 47 years; native of Finland; was admitted to the U. S. Marine Hospital at Stapleton, Staten Island, N. Y., August 16, 1892; died September 8.

History.—Patient had been in hospital several weeks before with the provisional diagnosis of dyspepsia. He suffered from severe pain in the epigastrium; from nausea, vomiting, pyrosis, and obstinate constipation, and was weak, emaciated, and of sallow complexion. A large, hard tumor could be seen and felt in the left hypochondrium, well over to the side. The vomiting continued till finally neither food nor drink could be retained. The vomitus was grayish, and at times contained fresh blood, but more frequently small coagula of decomposed blood. Weakness and emaciation were progressive, and although patient was fed by nutritive enemata, his vital energies were finally exhausted, and his death resulted from inanition.

Necropsy (eighteen hours after death).—Body was extremely emaciated; heart small, walls thin, valves normal. There was a small post-mortem clot in the right side. Right lung adhered to chest wall and diaphragm, smaller than normal; middle and lower lobes congested, œdematous, and filled with a frothy exudate; lung partly collapsed. Left lung nonadherent; upper lobe apparently normal, lower lobe congested and slightly œdematous—general anthracosis. Stomach considerably dilated, and partly filled with grumous fluid. The lesser curvature was occupied by a scirrhous tumor 12 cm. in length, 5 cm. in width, and 3 cm. in thickness. The pylorus was surrounded by cancerous tissue of the same character, which constricted its caliber to 5 cm., and extended into the body of the organ for 8 cm. or more. Indurated lymphatic glands were scattered over the anterior and posterior surfaces. The pancreas was a large misshapen mass of scirrhus adherent to the contiguous structures. The liver was normal in size but pale; the left lobe somewhat elongated, hard and tough under the knife; right lobe apparently normal. The gall bladder was distended. The spleen was reduced in size, shriveled, atrophied, and pale. The kidneys were pale and small, the capsule nonadherent, cortex thin. The diaphragm was adherent to the pancreas and stomach, and was also involved in the disease. The peritoneum was adherent to the under surface of left lobe of the liver and anterior wall of the stomach. The mesenteric glands were greatly enlarged and indurated, and the mesentery was adherent to the stomach. Other organs not examined.

SCIRRHUS OF THE STOMACH.

Bright's disease.

L. V.; aged 43 years; nativity, France; admitted to the U. S. Marine Hospital, Boston, Mass., October 15, 1892; died December 19, 1892.

On admission had been suffering for several months with epigastric pain, which was made worse by eating. Often vomited just after eating. General rheumatic pains. Left hand was swollen and painful. Lost much flesh. Rheumatism relieved by appropriate treatment. Patient developed phlebitis of both internal saphenous veins; feet and legs swelled and were very painful. Slept very little on account of the pain. Trace of albumen in urine. Dropsical effusion of connective tissue over whole body.

Necropsy (twelve hours after death).—Post mortem, lividity present. *Rigor mortis* marked. General nourishment fair. Left ventricle of heart slightly dilated, wall normal. Right ventricle and wall normal. Mitral valve incompetent on account of vegetations near edge preventing its perfect closure. Aortic valve competent. Vegetations about 5 cm. from edge of valves. Other valves competent. Weight of heart 430 grams. Pericardial sac contained about 60 c. c. of amber-colored serum. Long saphenous vein of right side examined and the coats found to be hardened and very much thickened. In feel it very much resembled an atheromatous artery. The lumen of the vein was almost obliterated by the thickening of the coats. Both lungs showed evidences of bronchitis and contained much bronchial mucus. Firm pleuritic adhesions at posterior portion and base of both lungs. Both pleuræ contained much clear serum. Weight of lungs: right, 960 grams; left, 880 grams. Scirrhus growth about 2½ inches in length involving pyloric orifice of stomach and almost closing it. Liver was quite hard, about normal in size, and contained a fatty deposit throughout and much increase of fibrin; weight, 2,360 grams. Pancreas hard and fibrous; weight, 135 grams. Kidneys contracted; sclerotic and lobulated; cortical portion almost obliterated; capsules adherent; weight: left, 162 grams; right, 110 grams. Spleen smaller than normal and hard; capsule strips readily; weight, 145 grams. Mesenteric glands very much hypertrophied and partially broken down. Death due to exhaustion and uræmic poisoning.

SCIRRHUS OF BLADDER.

T. McD.; aged 36 years; nativity, Massachusetts; admitted to U. S. Marine Hospital, port of Boston, Mass., December 6, 1892.

Had suffered from repeated attacks of diarrhea and much abdominal pain, also very irritable bladder, micturating about every half hour. No appetite. Rectal palpation revealed hard mass attached to bladder and diagnosis of scirrhus of bladder was made. Died March 28, 1893.

Autopsy (*eight hours after death*).—Body that of a medium-sized male very much emaciated. Right elbow joint had been resected, part of humerus being removed. Cicatrix from surgical wound. Motion good. *Rigor mortis* present. Pericardial sac contained normal amount of fluid. Heart contracted and empty. All valves competent. Ventricles empty. Walls thin; weight 180 grams. No fluid in pleural cavities. Slight pleuritic adhesions at apex of right lung. Hypostatic pneumonia in posterior portion of lower lobe of left lung. Slight hypostatic congestion and pneumonia of posterior portion of right lung. Weight of lungs: right, 295 grams; left, 415 grams. Slight peritoneal adhesions on left side. Liver congested; weight, 1,150 grams. Gall bladder and ducts normal. Spleen, weight, 120 grams. Pelvis of left kidney inflamed, dilated, and filled with pus. Right kidney congested. Weight of kidneys: left, 137 grams; right, 110 grams. Ureters inflamed and caliber enlarged. Left ureter dilated and filled with pus. Urethra congested. Prostate broken down. Bladder filled by broken down tumor and debris. Walls thick. Mesenteric glands enlarged. All glands in region of bladder enlarged, some broken down. On opening abdominal cavity a quantity of pus escaped from broken down lymph glands in skin over hypogastrium.

CANCER OF THE LIVER AND PANCREAS.

E. M.; aged 45 years; admitted to U. S. Marine Hospital, port of Boston, Mass., March 29, 1893, suffering from anæmia, swelling of extremities, particularly of left leg and foot; cachectic appearance, emaciated, considerable pain in abdomen, radiating downward and to left iliac region; a small tumor was found in abdomen which apparently gave lateral pulsation (but no bruit); a diagnosis of aneurism of abdominal aorta was entered provisionally. Died May 8, 1893, at 12:30 p. m.

Necropsy (*eighteen hours after death*).—Body of medium-sized male, emaciated, left leg greatly swollen; no cicatrices. *Rigor mortis.* Post mortem, discoloration on neck and shoulders. Pericardium contained normal quantity of fluid. Heart small, contracted; weight, 255 grams. Both lungs œdematous. Weight of right, 490 grams; left, 425 grams. Peritoneal cavity contained about 1,500 cc. of fluid. Peritoneum and peritoneal coat of intestines acutely and intensely inflamed. Stomach normal, except slight post mortem discoloration. Intestines, with exceptions noted, normal. Some dilatation of abdominal aorta. Liver contained a large cancerous growth, open at two points about 5 cm. apart; each open surface was about 3 cm. in diameter; liver tissue or substance contained 6 or 8 nodules of cancerous growths. Cancer had attacked adjacent surface of diaphragm; pancreas had a small nodule of cancerous tissue; subperitoneal and lumbar glands all cancerous; abdominal aorta at point of dilatation noted was overlapped with two enlarged glands which extended to either side, hence pulsating with artery. Arch of aorta was also dilated to about one-half again its normal caliber. Kidneys slightly congested. Weight of left 142 grams, right 112 grams. Capsule easily peeled. Left femoral vein was occluded for about 10 cm. with a thrombus, entirely closing the caliber; this was found to account for œdema and loss of pulsation of its accompanying artery, left femoral.

CARCINOMA OF THE LUMBAR VERTEBRÆ AND LIVER.

A. B.; aged 42 years; nativity, Germany; admitted to U. S. Marine Hospital at San Francisco, Cal., December 2, 1892. Readmitted January 4, 1893; died January 6, 1893.

History.—On admission he said he had sprained his back a month previously while carrying lumber. Had constant and great pain in lumbar and sacral regions, especially at sacro-iliac synchondrosis. Was treated at Port Townsend Marine Hospital. Pain was intermittent in character. Patient could not sleep without an opiate. He was emaciated, cachectic, and very much constipated. Physical examination showed phthisical process in right lung, with disease also beginning in left lung. History of syphilis: Morbid growth in pelvis suspected on account of pain and cachexia, but a physical examination failed to corroborate above suspicion. The patient steadily grew worse. Pain in back increased. Constipation could not be relieved by medicine or enemas. Digestion was poor and emaciation steadily progressed. The diagnosis made was sprain of back and tubercle of lung.

Necropsy (*Six hours post mortem*).—*Rigor mortis* still present. Subject much emaciated; pupils small, skin yellow and cachectic. Right leg œdematous. Lungs: Many pleuritic adhesions, especially on right side. On severing bronchi much pus escaped. Bronchial lymph glands were caseous and disintegrated. Several small cavities and scattered tubercles in right apex. Left lung slightly affected. Heart normal in size and valves competent. Abdomen. Liver, weight, 1,670 grams. A large cancerous nodule in upper edge of right lobe. A smaller nodule found in left lobe. Gall bladder distended. Stomach normal. Intestines: Small intestines apparently normal. Cæcum distended with gas. Rest of large intestines smaller than small intestines, and filled with hard masses of fœcal matter throughout its entire length. On removing small intestines a mass of hard tissue was seen on bodies of lumbar vertebræ and extending below promontory of sacrum. The growth had sprung from bodies of vertebræ, and had surrounded the aorta and vena cava, extending down into pelvis along vessels of right side more than left. The vessels appeared to tunnel the growth and were greatly compressed by it. The growth was removed as completely as possible, and weighed 260 grams. It was cartilaginous in consistence, very tough, and not very vascular. Kidneys: right, weight 180 grams; dark in color, but otherwise normal; left, weight 220 grams, very dark in color, otherwise appeared normal. Bladder nomal.

TUBERCULOSIS OF LUNGS.

CASE 1.

J. W.; colored; aged 21 years; nativity, Alabama; was admitted to the U. S. Marine Hospital, Cincinnati, Ohio, April 18, 1893; died May 23, 1893.

History.—This patient presented a continuous type of fever, with some diarrhea. There was some cough, but not enough at first to direct special attention to the chest. As the chest symptoms increased, with rapid emaciation and irregular temperature, the tubercular condition was recognized. There was continuous failure of vital forces, from the rapidly extending tuberculosis.

Necropsy (*held on the 24th of May*).—There were no ulcers of the intestines, so typhoid fever was excluded. Lungs were found to be in a very bad condition, showing cavities and quite a severe form of inflammation and extensive tubercular deposit. The pleural surfaces in places were united by adhesions. The liver, kidneys, and spleen, were somewhat below the normal in weight, and were rather hard.

CASE 2.

F. J.; aged 24 years; born in Sweden; admitted to Marine Hospital, Stapleton, Staten Island, N. Y., December 29, 1891; died September 22, 1892.

On admission patient stated that for several months he had had a cough, with yellowish expectoration, pain in the chest, dyspnœa, nausea, and vomiting. Physical examination revealed an emaciated body, fair chest expansion, with increased vocal fremitus, dullness, and crepitant rales at the apices of both lungs. Heart sounds were normal. Neither liver nor spleen enlarged. There was slight temporary improvement, after which he began to fail and the decline was steady till his death.

Necropsy (*twenty-three hours after death*).—Body extremely emaciated. On opening the chest the pleuræ were found adherent, and the left was much thickened, especially at the apex. The lungs were with difficulty removed. They were studded with tubercles and contained many large cavities, being more numerous in the left. A normal amount of pericardial fluid was present. The heart was reduced in size. The valves were normal. The left ventricle contained two antemortem clots, 1.5 cm. in diameter. The aorta was filled for 10 cm. with a like fibrinous material. Marked venous congestion of the liver with considerable enlargement. Kidneys were apparently normal. Spleen was enlarged to nearly twice its normal size. Mesenteric glands infiltrated with tubercles. Other organs not examined.

CASE 3.

Death from hemorrhage.

C. J.; aged 29 years; born in Florida; admitted to Marine Hospital, Stapleton Staten Island, N. Y., August 5, 1892; died October 22, 1892.

History.—Patient had coughed and raised yellow sputa for one month previous to admission to hospital. He also complained of pain in chest, dyspnœa, palpitation of heart, anorexia, nausea, and vomiting. Physical examination gave evidence of solidification of the right lung, and of the apex of the left. Disseminated tuberculosis of the right lung and involvement of the left apex were diagnosed. Symptoms above noted with rather profuse night sweats continued, till a severe hemorrhage occurred in which about 400 c. c. of blood poured from mouth and nostrils, causing almost immediate death.

Necropsy (*nine hours after death*).—Body fairly nourished. *Rigor mortis* slight. Pericardial sac filled with fluid. Heart pale, and reduced in size. Valves normal. The right pleural cavity nearly obliterated by adhesions. At the apex of the lung, in addition to the several smaller ones, was a cavity 4 cm. in diameter, the seat of hemorrhage. Both lobes were inflated with tubercles. On the external surface of the upper lobe were two openings 5 mm. in diameter. The upper lobe of the left lung contained a large tubercular mass. Spleen was pale and reduced in size. Liver, pancreas, and kidneys normal. Other organs not examined.

CASE 4.

T. B.; aged 52 years; nativity, Ireland; admitted to U. S. Marine Hospital, Chicago, Ill., May 17, 1893; died May 23, 1893.

History.—Patient had been sick about four years. Since the summer of 1892, a part of which he spent at this station, he has been unable to work, and has grown steadily worse. On admission to hospital his emaciation was extreme, expectoration very copious, and occasionally mixed with blood. No improvement followed treatment; on the contrary, rapid decline in strength took place, and he died on the sixth day after admission.

Necropsy.—The general nourishment of the body was poor and *rigor mortis* was well marked. Circulatory organs: The pericardium presented evidence of old pericarditis. The heart itself was of normal size and the valves competent. In the left ventricle, rather firmly attached to the chordæ tendinæ of the mitral valve, was an antemortem clot of moderate dimensions, but so situated as to materially affect the course of the arterial blood current. Lungs: These organs were firmly bound to the chest walls by pleuritic adhesions and were completely infiltrated with tubercular nodules, and cavities containing foul pus. The remaining viscera presented no abnormal macroscopic appearances.

CASE 5.

Valvular disease of the heart.

J. S.; aged 40 years; nativity, England; admitted to U. S. Marine Hospital, Chicago, Ill., March 29, 1893; died May 5, 1893.

History.—This patient had been ill for some years before admission to hospital; he had cough attended with profuse expectoration, occasional attacks of hemoptysis, night sweats, and dyspnœa. Physical examination of the chest showed unmistakable evidence of tubercular involvement of both lungs and also a systolic murmur, heard with greatest intensity over the apex (mitral regurgitation). Patient being unable to take oil, was put upon malt extract and brandy. At intervals it was found necessary to exhibit elixir of the phosphate of iron, quinine, and strychnine, also tincture of the chloride of iron and digitalis. Several days after admission the patient had hemorrhage from the lung.

Necropsy.—The general nourishment was fair and there was the usual post-mortem lividity and *rigor mortis;* the pupils were normal. Circulatory organs: The pericardial sac contained an abnormal amount of fluid. The left ventricular wall was hypertrophied and the mitral valve vegetative and incompetent. Lungs: The left lung was collapsed and considerably compressed by fluid in the pleural cavity. The lung itself was tubercular. The right lung weighed 1,520 grams, was the seat of extensive disseminated tuberculosis, and there was a large cavity at the apex. The remaining viscera presented no abnormal appearance.

CASE 6.

G. O.; born in Kentucky; admitted to U. S. Marine Hospital, Louisville, Ky., February 24, 1893, on diagnosis of intermittent malarial fever, and readmitted March 11, 1893, on diagnosis of tubercle of lung; died March 14, 1893.

Necropsy (fourteen hours after death).—*Rigor mortis* marked. Both lungs tubercular. Vomica in upper lobe of left. Other organs apparently normal.

CASE 7.

J. E.; aged 41 years; born in Kentucky; admitted to U. S. Marine Hospital, Louisville, Ky., February 15, 1893; died May 21, 1893.

Necropsy (eighteen hours after death).—Large cavity in upper lobe of right lung. Lower lobe showed deposits of tubercular matter. Left lung also tubercular to some extent. Heart somewhat enlarged and fatty, but no valvular lesions. Other organs apparently healthy.

CASE 8.

T. H.; aged 22 years; born in Kentucky; admitted to U. S. Marine Hospital, Louisville, Ky., February 22, 1893, on diagnosis of tuberculosis of the lungs; died March 12, 1893.

Necropsy (twelve hours after death).—*Rigor mortis* well marked. Œdema of lower extremities. Both lungs tubercular with large abscess cavity in lower lobe of left. Kidneys waxy. Other organs normal in appearance.

CASE 9.

H. P.; aged 25 years; born in Virginia; admitted to U. S. Marine Hospital, Louisville, Ky., October 21, 1892, on diagnosis of secondary syphilis; died February 15, 1893.

Necropsy (ten hours after death).—Right pleura universally adherent. Right lung was a tuberculous mass. Left pleura nonadherent. Left lung tubercular in lower lobe; upper lobe fairly healthy. Heart normal. Valves competent. Mesentery studded with cheesy tubercles. Other organs natural in appearance.

CASE 10.

J. P.; aged 21 years; nativity, Sweden; admitted to the marine ward of the German Hospital, Philadelphia, Pa., May 16, 1892; died July 24, 1892.

History.—Patient much emaciated when admitted. Physical examination of the chest revealed consolidation of right lung with cheesy patches in the left. In fact, all the signs of rapid breaking down of the lung tissues were present. Hectic fever reaching at times 40° accompanied the disease. Treatment was directed toward checking the night sweats, the high fever, and the rapid wasting; also toward toning up the stomach and checking the harassing cough. For this purpose creosote, cod-liver oil, whisky, morphine, atropia, etc., were administered.

Necropsy.—Pleuræ thickened and the parietal and visceral layers adherent on both sides. Scars of old abscesses found upon the pleuræ. Cavities throughout the lung structure were found filled with a purulent fluid. Peribronchial tissue was indurated, and the mediastinal glands were much enlarged. The pericardium was filled with fluid. Upon the epicardium pale milk spots were discoverable. The heart was normal, except that the cavities were filled with fibrin clots, and a beginning granular degeneration was noted in the left ventricle.

CASE 11.

J. J.; aged 28 years; nativity, Norway; admitted to the marine ward of the German Hospital, Philadelphia, Pa., July 1, 1892, and died October 10, 1892. Patient gave family history of tuberculosis. He was very weak, and examination developed signs of tuberculosis. Cavities in both lungs and a subacute pleurisy were noted. The routine treatment for such cases was used. Whisky, cod-liver oil, malt, and porter were administered. Atropine, morphia, strychnia and cocaine lozenges, and camphoric acid were all used when there were indications.

Necropsy.—Thorax alone opened. Heart normal; in diastole, chicken fat clots in the left side. The middle mediastinum was found to be filled with fluid. Milk spots noted upon the epicardium were found in the cavities containing pus. Lungs and the lower lobes were slightly gangrenous. The left lung was solid up to the clavicle. Pleura over the left lung adherent. The under surface of the sternum was ulcerated in places.

CASE 12.

G. O.; aged 29 years; nativity, Norway; admitted to marine ward Cleveland City Hospital July 11, 1892; died October 1, 1892.

History.—Family history good, as stated. Had coughed for a year constantly. States considerable loss of flesh has taken place in that time. Night sweats for a month before admission. Consolidation found at left apex. Tubercle bacilli abundant in sputum. Rapid extension of signs in lungs, showing spread of condition to larger part of both lungs. Sputa became fetid. Evening temperature generally over 39° C.

Necropsy (twenty-seven hours after death).—Livores present. *Rigor mortis* marked. Great emaciation. Pericardial sac and heart normal. Two and a half liters of clear fluid in left pleural cavity, also several very firm adhesions. Left lung compressed; one large and many small cavities at apex, and tuberculous masses all through lung. Very general adhesions in right pleural cavity. A number of cavities at apex of right lung and fine tubercles throughout. No further examination made.

CASE 13.

R. M.; aged 32 years; nativity, Scotland; admitted to marine ward Cleveland City Hospital August 21, 1891; died September 19, 1892.

History.—Had had a cough for two years before admission. Sputa abundant, occasionally bloody. Consolidation at apex of left lung; cavernous respiration in same region. The disease progressed quite slowly. A tendency to diarrhea always present, and this symptom became constant during the last five months. During last fifteen days of life severe headache developed, followed by delirium and slight opisthotonus.

Necropsy (twenty-four hours after death).—Livores and *rigor mortis* present. Emaciated. Pupils alike and normal. Pericardial sac normal. Heart normal, small. Left pleural cavity obliterated by adhesions; right contained adhesions at apex and posteriorly. Left lung contained one large and many small cavities in upper lobe, and fine tubercles throughout. Tubercular nodules at apex of right lung and in several places near base. Peritoneum of normal appearance. Occasional small tuberculous nodules in intestine, especially at caput coli. Lower bowel black from pigmentation following the continued catarrhal inflammation. Liver of normal size; dark brown. Right kidney of normal size and appearance; left larger, cortex rather narrow. Spleen slightly enlarged. The skull posterior to coronal suture, on both sides of median line, but especially on the left, was thinned and translucent, and an apparent protrusion of the membranes corresponded to these depressions. Dura was attached to skull over vertex. Tuberculous nodules were observed on the surface of brain near median line at vertex, and also at base, and near the beginning of fissure of Sylvius on the right. Excess of fluid in ventricles.

CASE 14.

S. R. (negro); aged 35 years; nativity, Tennessee; was admitted to the U. S. Marine Hospital, Evansville, Ind., June 19, 1893, and died July 10, 1893.

History.—Two years previous to admission he had a very severe cough and profuse expectoration. On admission to hospital, was in a state of extreme weakness, emaciated, could hardly speak from shortness of breath, and had to be carried from the ambulance to bed. His night sweats were controlled, and for awhile he seemed to improve, gaining in strength; respirations became more regular and pulse stronger. There was an unfavorable change on the thirteenth day after admission, vomiting occurring, with incessant cough, very rapid breathing, and loss of appetite. On the 10th of July his breathing was very rapid, pulse imperceptible, and death occurred at 4:50 p. m.

Necropsy (six hours after death).—General nourishment very poor; *rigor mortis* imperceptible; pupils dilated; there was only one bedsore and that was on the back. Pleuritic adhesions were found. Pericardial sac had strong adhesions to pleural layer on left side. The sac contained twenty (20) c. c. of fluid. Heart muscle was in an anæmic condition and the ventricles were in a state of collapse. Right lung: There were seven large tuberculous abscesses of lung, four in superior lobe; these had discharged pus, while the three others were beginning to break down. Left lung: Five large abscesses were found in the superior, two in middle, and one in lower lobe; three in superior lobe were empty; all the rest contained pus. Liver: Enlarged, dark in color, right lobe soft; gall-bladder and ducts were filled with bile. Stomach: Undigested milk and eggs were found in stomach, which was distended with gas. Kidneys: Very anæmic and of a yellowish tinge; they were abnormally large, but were apparently not diseased.

CASE 15.

G. W. J.; aged 29 years; nativity, Virginia; admitted to the U. S. Marine Hospital Baltimore, Md., March 13, 1893; died March 20, 1893.

History.—Gave family history of consumption. Patient had been sick some time before admission. On admission was very weak and exhausted; complained of pains in the chest, of a sharp, shooting character; respiration very much accelerated, forty-four per minute; dyspnœa marked on slightest exertion. Anxious countenance and delirium; coughing frequent, accompanied by a muco-purulent expectoration. No blood noticed in expectorated matter. Was unable to take any nourishment except liquids. Temperature, 38.4; pulse, 114. Auscultation: Respiratory murmur heard in all parts of both lungs, but very short and interrupted; gurgling râles heard all over the chest, especially marked at the apex of the right lung; friction sound heard on both sides of chest; heart sounds increased and rapid; percussion note dull over both lungs, more marked over apex of right lung. Heart, liver, and spleen, normal.

Necropsy (twelve hours after death).—*Rigor mortis* well marked. Body very much emaciated. Ribs and costal cartilages prominent. Pleural cavity contained very small quantity of fluid. Parietal and visceral pleura adherent at places on both sides of thorax, more marked on right side. Lungs: Crepitant in all parts on pressure, small nodules in apices. On section there was a muco-purulent exudation. The apex of the right lung contained several small cavities partly filled with pus; cavities surrounded by solid lung tissue. Pericardium adherent to chest wall in places. Heart: Walls of right side of heart slightly thickened; valves normal. Liver: Somewhat enlarged; on section presented a deep-red appearance, showing some congestion. Spleen, normal in color and size. Kidneys: Right kidney larger than left; capsule slightly adherent in patches. Both kidneys normal on section.

CASE 16.

F. H. K.; aged 40 years; nativity, New York; admitted to Marine Hospital, Stapleton, N. Y., May 31, 1892; died July 14, 1892.

History.—Family history good. Stated he had been sick about eighteen months, first with a cold, which was followed by a cough. When admitted he had cough, and freely expectorated thick yellow sputum. No night sweats. Bowels regular, anorexia, but no nausea nor vomiting. Dyspnœa, palpitation of heart, and insomnia. Physical examination: Body much emaciated, epigastric region prominent, chest expansion fair. Vocal fremitus increased on right side. Dullness on right side. Amphoric resonance on percussion at base of either lung; bronchial breathing marked on left side, and mucus râles heard over left lung. Heart rapid, but no abnormal sounds on auscultation. Liver somewhat enlarged. Spleen normal. He gradually became weaker and died on the date above given.

Necropsy (four hours after death).—*Rigor mortis* not marked; body fairly well nourished; hypostatic congestion posteriorly. Pleural cavity of the right side filled with fluid; right lung almost completely collapsed, with strong fibrinous adhesions; lung contained tubercular cavities throughout. The left lung also showed strong adhesions with tubercular deposits and cavities in apex. Heart apparently normal; pericardial fluid normal in amount. Fluid was also found in the peritoneal cavity. The liver was mottled on external appearance, and on section presented marked nutmeg appearance. Spleen normal. Kidneys somewhat pale.

CASE 17.

L. L.; aged 37 years; nativity, Sweden; admitted to Marine Hospital, Stapleton, Staten Island, N. Y., August 12, 1892; died August 23, 1892.

History.—Upon admission to hospital, patient stated he had been sick about three weeks. Complained of severe headache and pain in back and right side. No chills, but fever and sweating at night. Had a cough with yellowish expectoration; had "spit up blood." Has dyspnœa, no palpitation of heart. Bowels regular, passed his urine without difficulty.

Physical examination.—Body fairly well nourished; depression above clavicles; chest expansion good; vocal fremitus normal; dullness on percussion at apices of both lungs; crepitant and subcrepitant râles heard anteriorly, and bronchial breathing posteriorly over lungs; vocal resonance increased on left side. Heart sounds normal. Tongue coated white. Liver slightly enlarged. Spleen normal in size.

21st.—Became unconscious;—probably cerebral embolism, though the usual symptoms were not very marked. Temperature at 3:45 p.m. rose to 40.2 and at 4:15 p.m. fell to 37.6. Condition became gradually worse, death taking place at 6 p.m., August 23, 1892.

Necropsy (eighteen hours after death).—Body fairly well nourished. *Rigor mortis* well marked. Hypostatic congestion posteriorly. On removing the calvarium, the membranes of the brain were found to be deeply congested; otherwise the brain was apparently normal. Both lungs firmly adherent to chest wall and studded with miliary tubercle. Pericardial sac contained the normal amount of fluid. Heart apparently normal. Liver somewhat enlarged, and on section presented a nutmeg appearance. Spleen pale. Both kidneys deeply congested.

CASE 18.

J. M.; aged 30 years; nativity, Ireland; was admitted to the U. S. Marine Hospital, New Orleans, La., May 27; died June 24, 1893.

History.—The patient had been previously under treatment at this and other marine hospitals for pulmonary phthisis, fistula in ano, and alcoholism. On admission he was completely "run down," emaciated, weak, harassing cough, profuse expectoration, with exhausting sweats and diarrhea. Auscultation showed both lungs to be extensively diseased. Tonics, stimulants, sedatives, and an abundance of nutriment were given, the only result being to make him comfortable.

Necropsy (twelve hours after death).—Body that of a young white man in extreme emaciation. The lungs were broken down, honeycombed with abscesses and so firmly adherent to chest walls as to be detached with difficulty, tearing readily. Estimated weight of each, 300 grams. The other organs, though anæmic, were apparently normal.

CASE 19.

W. T.; seaman; aged 40 years; a native of Maryland; entered the marine ward of St. Francis Xavier's Infirmary, Charleston, S. C., on May 30, 1892; died July 23, 1892, from tuberculosis of the lungs.

No history of tubercular diseases in family. His life as a pilot had been a very exposed one, and asthmatic symptons had been present for more than two years. Status presens. Appearance generally good; some dyspnœa evident, with blueness of lips; skin muddy; clubbing of ends of fingers; thorax well developed, expansion limited; general dullness over the apices of lungs; increased resonance of lower right lung. Auscultation revealed a diminished respiratory murmur throughout left lung; numbers of small râles; very general sibilus, and a few loud râles in larger tubes. Expiration was prolonged and inefficient. On the right side there was less spasm of the tubes and but little sibilus; at the apex were heard numerous small râles, and expiration was prolonged; the lower lobes were still elastic, with no evidence of infiltration; expiration normal. Heart sounds distinct, with accentuated pulmonary second sound. Cough is troublesome; expectoration nummular and muco-purulent. Cover-slip preparations, with carbol-fuchsin in contrast with methyl-blue, gave the differentiation of numerous tubercle-bacilli. Treatment was tonic and expectorant, with free use of creosote. The lungs were rapidly disintegrated; expectoration copious, the bacilli increasing to enormous numbers; emaciation extreme; general œdema; death from exhaustion.

Necropsy (six hours post mortem).—Body of adult male, 175 cm. high, 110 cm. around shoulders; slight lividity about back and loins; extreme emaciation; rigor slight. Pupils normal; heart normal save slight dilatation of the right auriculo-ventricular opening, with slight relative tricuspid insufficiency. Pericardium and fluid normal; heart in diastole. Left pleura adherent throughout and studded with tubercles; apex of lung badly disintegrated with numerous small cavities filled with pus; tubercles everywhere; lower lobe infiltrated with pus from broken down tubercular masses. At the diaphragm the pleura was densely infiltrated with tubercles; and the lymphatics of the diaphragm, becoming tubercular, had borne the infection to the general peritoneum which was studded with gray tubercles; post-peritoneal glands much enlarged. Other organs much congested. Death from tuberculosis of the lungs.

CASE 20.

J. H., aged 28 years; nativity, Ireland; admitted to Marine Hospital, Stapleton, Staten Island, N. Y., December 5, 1892; died January 19, 1893.

History.—Patient had been ill for about five months, complaining of cough with considerable yellowish expectoration, and dyspnœa. Appetite very good. Temperature 40° C. Pulse 100. Respiration 40. Body fairly nourished. Chest expansion was good. Sonorous and sibilant rales were heard throughout both lungs. Patient was evidently suffering from a severe attack of bronchitis. A few days later, as the acute symptoms in a measure subsided, there was evidence of consolidation in the lower lobe of left lung posteriorly, dullness on percussion, and tubular breathing.

December 14.—It was noted that at both apices there were increased vocal fremitus, dullness on percussion, and subcrepitant rales. The temperature ranged very high, between 38° and 40° C., and during the forty-five days patient was in hospital his temperature was normal only fourteen mornings. His decline was very rapid. For several days before his death there were attacks of dyspnœa and cyanosis, from each of which he rallied, till on the evening of January 19, in an attack like the above, he suddenly expired.

Necropsy (thirteen hours after death).—Body somewhat emaciated. *Rigor mortis* slight. On opening the thorax the lungs did not collapse. There were 30 c. c. of pericardial fluid, and on the anterior wall of left ventricle was a fleck of fibrin one c. m. square. Large ante mortem clot in right ventricle. The valves of the heart were normal. The visceral and parietal layers of left pleura, where non-adherent, were inflamed and thickened. There were 250 c. c. of straw-colored fluid in the cavity. Pus exuded from both bronchi as they were cut. Apex of left lung was firmly adherent to chest wall. Upper lobe contained a cavity the size of a hen's egg, across which stretched several fibrous bands. Throughout the lung were smaller cavities, all of which were filled with pus. Right lung was adherent at apex. Upper and middle lobes were infiltrated with small pus cavities. The right lower lobe, the only one apparently capable of performing the respiratory function, was deeply congested. Liver somewhat enlarged and congested. Spleen increased to twice its normal size, nodular, and congested. Left kidney was the smaller. Both were congested. The mesentery was studded with small tubercular nodules and the peritoneum contained 1,500 c. c. of fluid. The bladder was small and contracted.

CASE 21.

P. C.; aged 63 years; nativity, Ireland; was admitted to Marine Hospital, Stapleton, Staten Island, June 17, 1892; died, January 8, 1893.

History.—Patient had been in this hospital twice previous to his last admission under the diagnosis of acute bronchitis. When last admitted he complained of cough, dyspnœa, and a feeling of general malaise. Body poorly nourished. Chest expansion about one and one-half inches. Dullness on percussion over upper half of left lung. Mucous rales heard at the apices of both lungs. Systolic murmur at the apex of heart. Patient's appetite was poor. The bowels were irregular. The cough grew worse and expectoration at times containing blood became more profuse and purulent. Dyspnœa increased and near the end respiration was very rapid and labored.

Necropsy (thirty-six hours after death).—Body emaciated. *Rigor mortis* marked. Pericardial fluid normal. Large ante mortem clot in aorta. Segments of aortic valve were thickened. Otherwise heart was apparently normal. Both lungs were firmly bound down by pluritic adhesions. Right was congested throughout. Left ung was greyish in color, tough and fibrous under the knife, and it contained several purulent cavities. Liver normal in size, but slightly cerrhotic. Spleen small and tough; capsule nonadherent. Kidneys apparently normal. Mesenteric glands were infiltrated with tubercle.

CASE 22.

H. J.; aged, 51 years; nativity, Finland; admitted to Marine Hospital, Stapleton, Staten Island, N. Y., March 25, 1893; died May 27, 1893.

History.—Patient states that he has had a cough for the past four months. Night sweats every night; has rapidly lost flesh; 12 or 14 pounds in the past four months. His family history gives no clue to tuberculosis; has never spit up any blood; spits up a yellow viscid mucous fluid. Used to smoke a pipe, from which he inhaled the smoke. Bowels regular; appetite poor. Drinks some. No specific history. General condition poor.

Physical examination.—Body poorly nourished. Chest expansion poor. Slight increase of dullness and vocal fremitus at both apices. Large and small rales in both subclavicular regions on auscultation. Emulsion cod-liver oil given three times a day. Also creosote cough mixture and chloroform cough mixture. Treatment continued up to April 24. Weight April 29, 123½ pounds.

May 3.—Creosote mixture discontinued. Whisky administered at a. m.; p. m., morphia administered.

May 5, p. m.—Dyspnœa and pain in chest. Morphia again administered.

May 6, p. m.—Feels sore all over body. Dyspnœa and pain in chest and abdomen; constipated; C. C. pills No. iii at 8:30 p. m. administered.

May 9.—Whisky and maltine with hypophosphites administered.

May 10, p. m.—Pain over chest and abdomen and sides. Morphia given again.

May 13.—Pain still. More morphia.

May 14 and 15.—Constipated. Seidlitz powder on 14th and C. C. rhubarb pills on 15th.

May 17.—Whisky increased to 75 c. c. 17th p. m., very restless, and pain in abdomen. Morphia administered. 17th to time of death patient grew weaker and was kept on morphia and stimulants. Patient died 1:15 p. m., May 27, 1893, from asthenia.

Necropsy (*Sunday, May 28, at 10 a. m.*).—Body poorly nourished. P. m. lividity marked. *Rigor mortis* marked. Both pleural cavities obliterated by adhesions. Left lung: Upper lobe infiltrated with tubercle nodules; lower lobe, hypostatic congestion. Right lung: Same condition. Liver: Genuine nutmeg. Spleen congested. Kidneys slightly decreased and congested.

CASE 23.

H. McG.; aged 30 years; nativity, New York; admitted to the Marine Hospital, Stapleton, Staten Island, N. Y., April 11, 1892; died July 6, 1892.

History.—Upon his admission patient stated he was taken sick four months ago. His sickness commenced with chilly sensations, colliquative sweats, cough with a profuse white expectoration; no dyspnœa or pain in chest; appetite good, nausea and vomiting present; bowels constipated; progressive emaciation; pain in back.

Physical examination.—Body poorly nourished; chest expansion poor. Vocal fremitus not increased. On percussion slight dullness over both lungs. On auscultation tubular breathing at apices and mucous rales throughout both lungs. Heart sounds normal; liver slightly enlarged; spleen appears normal in size. Patient remained in hospital under treatment, gradually growing weaker, and died on date above given.

Necropsy (*nineteen hours after death*).—Body emaciated; *rigor mortis* well marked hypostatic congestion posteriorly; pericardium contained normal amount of fluid. Heart large; otherwise normal. Lungs; tubercular and filled with cavities; both firmly adherent to chest walls. Liver fatty, kidneys pale, spleen normal.

CASE 24.

J. W. F.; aged 50 years; nativity, New York; admitted to the marine ward of St. Mary's Infirmary, Galveston, Tex., December 19, 1892; died April 19, 1893.

History.—Patient was first affected four years ago, and has not been well since. He was an out-patient of the New York Hospital, and was advised to come South. When seen here he had several troubles in addition to his pulmonary complaint, namely, necrosis of the alveolar processes of the inferior maxilla, dyspepsia, and asthma; these latter, however, soon disappeared. The following symptoms and signs predominated: Cough and purulent expectoration, attacks of shortness of breath, retraction of the left chest wall, loss of flesh, evidences of consolidation, evening rise of temperature, a slight hemorrhage from lungs before death. A large bronchiectatic cavity was located in right apex.

Necropsy.—Post-mortem examination made six hours after death. Beginning *rigor mortis*. Body extremely emaciated. Pericardial sac contained a small amount of amber-colored fluid. Heart small, with its walls and valves normal. Left lung much shrunken and adherent by old adhesions to thoracic parietes and diaphragm. The apex clung tenaciously, leaving a part behind; no sound tissue in entire lung. Section showed numerous small cavities, caseous patches, and deposits of tubercle. Right lung not so badly involved, only the apex and part of middle lobe being diseased. The apex was one large cavity. There was a marked difference in the sizes of the pleural cavities, the left being unusually small and encroached upon from all sides. The source of the hemorrhage, whether systemic or pulmonary, could not be ascertained. The intestines and accessary organs displayed no departure from the normal appearances found there.

CASE 25.

C. P.; age, 30 years; nativity, Finland; admitted to U. S. Marine Hospital, port of Boston, Mass., May 17, 1893, suffering from tuberculosis and inflammation of the stomach; complained particularly of constant pain in stomach; died May 22, 1893.

Necropsy (*twelve hours after death*).—Body of medium-sized white male; tattoo marks left forearm figure of a female. Heart: Small, contracted, its valves pale and flabby, but competent. Weight of heart, 277 grams. Pleura adherent throughout. Both lungs infiltrated with tubercle; several cavities of small size in posterior portion of left lung; longest of these, about 3 cm. in diameter, was in upper posterior part of left upper lobe. Weight of lungs: Left, 877 grams; right, 870 grams. Small intestine contained throughout its course numerous tubercular ulcers, some extending nearly entirely around its lining; many of these were so extensive and walls of gut so thinned that rupture was imminent. Larynx and trachea also contained tubercular ulcers. Blood vessels of stomach very much dilated; the mucous membrane of this organ was in a state of chronic congestion and catarrhal inflammation. Liver substance flabby and slightly amyloid. Weight of liver, 1,752 grams. Kidneys apparently normal. Weight of left, 147 grams; right, 145 grams. Brain: Membranes of brain pale and anæmic. Brain normal; weight, 1,315 grams.

CASE 26.

E. S.; aged 26 years; nativity, Nova Scotia; admitted to U. S. Marine Hospital, port of Boston, Mass., March 13, 1893, suffering with tuberculosis of the lungs; died March 29, 1893.

Necropsy (*twelve hours after death*).—Body small, emaciated. *Rigor mortis*. Postmortem, lividity on neck, shoulder, and back. Heart weighed 250 grams; its valves pale and flabby, but competent. Pericardial sac contained 75 c. c. fluid. Pleural cavity contained 259 c. c. fluid. Pleura adherent throughout. Left lung infiltrated with tubercle, except inferior half lower lobe; weight, 1,150 grams. Right lung, weight 1,090 grams. Contained tubercle in upper lobe; balance œdematous.

Patches of tubercle in visceral layer of peritoneum. Liver congested, nutmeg in appearance; weight, 1,750 grams. Pancreas weighed 70 grams. Left kidney weighed 297 grams; large and white; capsule easily peeled; right kidney, weight 167 grams. Same appearance as left. Spleen congested; weight, 230 grams.

CASE 27.

C. B.; aged 50 years; nativity, Sweden; admitted to U. S. Marine Hospital at San Francisco, Cal., April 9, 1892; died, June 28, 1893, at 6 o'clock a. m.

History.—On admission patient complained of pain in joints of lower extremities and sore throat. He stated that three months previous to admission he had had an ulcer of the penis. Subsequently a rash appeared on body. A diagnosis of secondary syphilis was made and he was put on specific treatment. On May 9, 1892, he complained of cough. Physical examination showed tubercle of both apices. A prominent symptom throughout patient's illness was a severe pain over lower border of liver, which was aggravated by pressure. Chronic constipation was present from date of admission until May 17, 1893, when a severe diarrhea set in, which continued, with few intermissions, until patient's demise. Patient became much emaciated.

Necropsy (seven hours post-mortem).—Body much emaciated. *Rigor mortis* marked. Thorax: Numerous old pleuretic adhesions were encountered on both sides. Lungs: Both lungs were contracted. Very little crepitation present. To the touch they were hard and nodulated in the interior. On section they cut with a leathery feel. Tubercular cavities and caseous spots in both apices. Both lungs were congested. Heart weighed 240 grams. Antemortem clot in aorta. Mitral valve was found incompetent; other valves were competent. Liver weighed 1,400 grams. Gall-bladder was distended. Right lobe appeared normal; left lobe was somewhat contracted and was hard and leathery on section. There seemed to be some fibroid induration. Spleen was congested. Kidneys were large and white. Capsule non-adherent. They presented signs of chronic parenchymatous nephritis.

CASE 28.

W. K.; aged, 50 years; nativity, New York; admitted to U. S. Marine Hospital at San Francisco, Cal., March 20, 1893; died May 1, 1893, at 11:45 p. m.

History.—On admission he complained of cough and constant vomiting. His cough was of several years' duration. He gave a phthisical family history, and physical examination revealed tubercle of lung in stage of cavity formation. An atheromatous condition of his arteries was present. Treatment was palliative, and the disease gradually progressed until death supervened.

Necropsy (twelve hours post-mortem).—General condition, much emaciated. Thorax: Old pleuretic adhesions were encountered on both sides. Bronchial lymph glands were caseous. Right lung: Congested posteriorly and inferiorly; several small cavaties, filled with pus, in upper lobe. Apex appeared healthy. Left lung: Apex much diseased. Numerous small cavities filled with pus; also numerous tubercular foci found in apex. Heart normal. Abdomen: Liver small; weight, 1,150 grams. It was hard and leathery on section. Kidneys: Left kidney, weight 120 grams; right kidney, weight 110 grams; appeared normal. Intestine: Miliary tubercles in peritoneal coat. Numerous ulcers in jejumem and ileum. One was a perforating ulcer. The peritoneum had lost its natural lustrous appearance and appeared dull in color. Scattered exudations of lymph present. Mesenteric lymph glands much enlarged.

TUBERCULOSIS OF THE LUNG.

CASE 29.

A. S.; aged 23 years; nativity, Illinois; admitted to the U. S. Marine Hospital, New Orleans, La., July 15, 1892. Discharged at his own request August 12, 1892. Readmitted October 2, and died October 11, 1892.

History.—Patient sought relief from a tormenting diarrhea, obstinately insisting that he was perfectly well otherwise. Examination disclosed a chronic pneumonia of right lung, extensive consolidation, and probable obliteration of corresponding pleural cavity. After a few weeks' treatment he requested his discharge, being improved in strength and general condition. After a somewhat extended trial of domestic and empirical remedies he returned to the hospital completely broken down. Temperature 39° C., pulse 140, thread-like respiration 30. Superficial general anasarca from umbilicus down. Diuretics, stimulants, and an abundance of milk, eggs, beef tea, and other diet, with sufficient opium to quiet the cough, constituted the treatment. The patient sank into a condition of stupor and died.

Necropsy (*four hours after death*).—Body that of a young mulatto, extremely emaciated, abdomen and feet greatly swollen. Post-mortem lividity and rigor marked. Heart sac distended with serum; heart pale, flabby, and loaded with fat; valves apparently normal; weight, 327 grams. Left lung congested, weight, 335 grams, right lung hepatized throughout, breaking down, adherent to chest walls; weight, 625 grams. Both lungs studded with cheesy tubercles. Large quantity of serum in thoracic and abdominal cavities. Intestines dotted throughout with tuberculous ulcers. Liver very dark brown, otherwise apparently normal; weight 1,472 grams. Gall bladder nearly empty, and with the ducts very pale in color. Kidneys showing fatty degeneration; weight, left, 165 grams; right, 157 grams. Spleen large, friable, currant-jelly like; weight, 582 grams. Glands of mesentery enlarged, hardened, and many breaking down.

CASE 30.

E. A.; aged 45 years; nativity, Ohio; admitted to marine ward Cleveland City Hospital, September 17, 1892; died January 21, 1893.

History.—Family history good. Caught cold in May, 1892, and has had cough since. No dullness detected at first on percussion of chest, but a few fine mucous râles in right interscapular region and bronchophony were found. He had night sweats.

October 1.—Bronchial respiration, subcrepitant râles at both apices. Tubercle bacilli in sputum. Progress of disease quite rapid. Occasional chills and night sweats. Loss of voice after January 1, 1893.

Necropsy (*sixteen hours after death*).—*Rigor mortis* present. Emaciated. Pericardial sac distended with clear fluid; one small adhesion. Heart and thoracic aorta normal. Larynx and trachea covered with minute ulcers. In right pleural cavity adhesions were found posteriorly; in left at apex and posteriorly. Left lung contained many tubercular masses, one large cavity at apex and many small ones in both lobes. Right lung contained many tubercular nodules and many small cavities. There was considerable fluid in abdominal cavity. Intestines normal. Liver normal, weight 2 kilos. Right kidney appeared normal; the left was smaller and nodular, contained two cysts filled with thin fluid and two filled with dark brown granular, glistening material. Cholesterin crystals were found to be the only distinguishable constituent of the latter. Spleen normal.

CASE 31.

C. F.; aged 39 years; native of Pennsylvania; admitted to U. S. Marine Hospital, Cincinnati, Ohio, September 15, 1891; died November 9, 1992.

History.—Typical of tuberculosis of lungs up to October 31, 1892, when a condition of symptoms denoting cerebral meningitis supervened. For two weeks there had been frontal headache, from which only partial relief could be had from counter-irritation and analgesics. Early in morning of above date patient became delirious, with constant groaning and limbs in continual motion. Six a. m. pulse 120; Cheyne-Stokes respiration, pupils dilated, and eyes unresponsive to light. Patient rallied in evening, and breathing became normal. Three days later much better, but semiconscious. When spoken to seemed to understand, but replies rambling and incoherent. A comatose state set in at the last and relieved him of much suffering.

Necropsy (*four hours after death*).—Body greatly emaciated. Removal of the calvarium exposed a congested dura; vessels large and tortuous. A pachymeningitis existed above the middle lobes and in neighborhood of fissure of Rolando, with adhesions to cranial bones and to the pia. No miliary tubercles found in basilar pia or anywhere else. The cerebral substance was soft in consistence; ventricles well filled with fluid. The brain weighed about 1,380 grams. The lungs exhibited the usual lesions consequent on long-standing tuberculosis. The result of examination of the brain is interesting, as a diagnosis of tubercular meningitis seemed to be borne out by all the facts in the case.

Case 32.

J. C.; aged 17 years; nativity, Kentucky; admitted to U. S. Marine Hospital, Cincinnati, Ohio, January 26, 1892; died July 8, 1892.

History.—On admission patient was suffering from an ischio-rectal abscess, which yielded readily to treatment. His was a typical case of pulmonary tuberculosis.

Necropsy (*nine hours after death*).—Body exceedingly emaciated; beginning *rigor mortis*. Heart in dyastole and containing post mortem clots; there were some vegetations around the mitral orifice, but no impairment of function. Both lungs were adherent in many places to the chest walls; the several lobes were agglutinated and loaded with tubercles. There were numerous abscesses, some containing as much as 5 c.c. of pus; the bronchial glands were enlarged and degenerating. The liver was pale in color and undergoing fatty degeneration. The great omentum thinned and devoid of adipose tissue.

Case 33.

E. W. W.; aged 26 years; a native of Wisconsin; was admitted to the Marine Hospital, St. Louis, Mo., on October 8, 1892; died October 13, 1892.

His family history is good. He had smallpox when 5 years old. Seven years ago his right leg was broken. Four years ago had malarial fever, and again three months later. One year ago had a gunshot wound in his leg. In May, 1892, he got wet and took cold. He now has a cough, which annoys him a great deal in the morning. He has urgent dyspnœa on the slightest exertion, and his respirations, even when he is sitting quiet, are very frequent. He has night sweats. He has no appetite, and feels very weak. He had a rise of temperature of one degree when first admitted. Then his temperature remained normal until he died, on the 13th of October, 1892.

Necropsy (*eight hours post-mortem*).—*Rigor mortis* slightly marked. Lungs: Left lung contained a large number of small cavities, the same is also true of left lower lobe; left lung weighs 1,210 grams; the right upper lobe is one large cavity. Right middle and lower lobes contain many small cavities. Weight of right lung, 1,310 grams.

Case 34.

P. O.; aged 20 years; nativity, Norway; admitted to U. S. Marine Hospital, Boston, Mass., September 26, 1892; died October 2, 1892.

Has had a cough for four years; night sweats for past two years. A few days ago he fell overboard, and since that time his cough has been much worse. Very feeble on admission: breath very short; pain and soreness over chest.

Necropsy (*thirty-four hours after death*).—Post-mortem lividity slight. *Rigor mortis* marked. General nourishment fair. Pupils moderately contracted. Ventricles and valves of heart normal; both ventricles contained chicken-fat clot; weight of heart, 280 grams. Pericardial sac normal; contained about 30 c.c. straw-colored fluid. Firm pleuritic adhesions from apex to base of left lung on posterior surface; multiple cheesy nodes, with one cavity size of walnut at apex of left lung; weight of lung, 730 grams. Entire surface of right lung bound by old and firm pleuritic adhesions. Multiple cheesy nodes throughout entire lung. Apex almost solid, with cavity about the size of a hen's egg; weight of lung, 760 grams. Liver normal in size and color; weight 1,580 grams. Kidneys normal; capsule not adherent; weight, left, 182 grams; right, 135 grams. Suprarenal bodies normal. Spleen normal; weight, 183 grams.

CASE 35.

J. B.; aged 51 years; nativity, Maine; admitted to the U. S. Marine Hospital, port of Boston, Mass., May 19, 1892; died July 23, 1892.

Has had a severe cough since early last winter and was treated in this hospital until early in April. Caught cold six weeks ago, since which he has been quite ill. Family history good. He was always well before this attack, which began with influenza and pneumonia. Symptoms on admission: Cough, mostly at night; expectoration frothy and profuse; dyspnœa constant, worse on exertion. Had only very few night sweats. Lost 35 pounds in weight. Physical signs:

Inspection: Chest flattened below clavicles. Expansion three-fourths of an inch. Percussion: Anterior, right, dullness over clavicle to third intercostal space. Liver: Dullness begins at fourth interspace, ends at tenth. Left: Slight dullness over clavicle. Posterior: Nothing of note.

Auscultation: Right, bronchial breathing over apex, feeble at base, though bronchial sounds predominate. Left: Bronchial breathing at apex, decreasing toward base. Skin yellowish; sputum contained tubercle bacilli in large numbers.

Necropsy (*five hours after death*).—Post-mortem lividity present; *rigor mortis* present; general nourishment poor. All valves of heart competent, but slight thickening at edge of nitral. Ventricular cavities normal; wall of left ventricle hypertrophied; wall of right ventricle normal. Antemortem blood clot in right ventricle. Weight of heart, 365 grams. Pericardial sac contained about 30 c. c. of fluid. Pleuræ so firmly adherent to lungs over whole surface that they could not be removed entire. Lungs contained caseous nodules and spots of fibroid degeneration. Fatty infiltration of liver; color grayish; weight 1,820 grams. Fatty degeneration of kidneys. Weight, left, 200 grams; right, 165 grams. Spleen congested. Weight, 290 grams.

CASE 36.

J. W.; aged 50 years; admitted to the U. S. Marine Hospital, Boston, Mass., May 3, 1892; died October 20, 1892.

Patient very weak and feeble from time of admission; was much in bed; profuse bronchorrhœa and occasional night sweats. Cough very severe and troubled him most during the night. Had much trouble with diarrhea a short time before death. Had been a very hard drinker and did not respond to stimulating treatment.

Necropsy (*forty-eight hours after death*).—Post-mortem lividity slight; *rigor mortis* marked. General nourishment fair; pupils contracted. Ventricles of heart filled with chicken-fat clots. Walls flabby and slightly fatty; all valves competent. Pericardial covering of heart shows cicatricial thickening, evidently the result of old pericarditis. Weight of heart, 440 grams. Pericardial sac normal, containing about 90 c. c. fluid. Left lung bound down by pleuritic adhesions for its entire length posteriorly and at the base anteriorly; scattered tubercular nodes through the entire lung, particularly at the base, which was solid, with a few small cavities; apex also solid. Bronchial tubes filled with a muco-purulent secretion. Weight, 840 grams. Right lung bound by firm pleuritic adhesions over entire surface; at the base the adhesions were so firm that they had to be dissected; consolidation and small cavities throughout entire lung, except small portion of upper lobe; weight, 840 grams. Liver, fatty; distinctly nutmeg; grayish in color; weight, 1,890 grams. Left kidney, pig-backed kidney of Formad; fatty; capsule adherent. Weight, 190 grams. Right kidney, fatty; weight, 185 grams.

TUBERCULOSIS OF THE LUNGS AND INTESTINES.

K. P.; aged 22 years; nativity, Norway; admitted to U. S. Marine Hospital, Vineyard Haven, Mass., January 19, 1893; died May 25, 1893.

History.—When patient was admitted he complained of severe pain in the abdomen, with tenderness on pressure; bowels constipated, and had fever. A diagnosis of peritonitis was made. In a short time there was a severe diarrhea; tenderness on pressure in the right iliac fossa, and paroxysms of severe pain. Soon there was loss of flesh, the patient becoming extremely emaciated before his death. The fever was of an irregular type, and was characterized by the most marked variations, the evening temperature being 39° C. to 40° C., while the morning temperature was seldom above 36° C., and often as low as 34° C. At this time no signs of tubercle of lungs could be recognised, but the diagnosis was changed to that of tubercle of intestines. About three weeks before his death he suffered with cough, and all the physical signs of phthisis pulmonalis could be recognized. All these symptoms increased in severity until the patient died from exhaustion.

Necropsy (one hour after death).—External appearances: *Rigor mortis*, slight; postmortem, lividity slight and body much emaciated. Thoracic cavity: The pleuræ were studded with tubercles, and marked adhesions existed, almost obliterating the pleural cavities. Both lungs were found much diseased; the whole structure of the left was tuberculous and contained three small cavities in the upper lobe. Right lung was similar in condition to the left, excepting the cavities. The heart was small; weight, 250 grams. A few tubercles were found in the pericardium, and the pericardial sac contained 50 c. c. of pale straw-colored fluid. Abdominal cavity: Stomach, normal. Peyer's patches were markedly infiltrated with tubercles and had ulcerated, showing the characteristic tubercular ulcer, some of which had extended to the peritoneal coat. Peritoneum showed evidences of inflammation, which was tubercular in origin. Kidneys, spleen, and pancreas normal. Cranium: Brain not examined.

TUBERCULOSIS OF THE LUNGS, LARYNX, AND INTESTINES.

O. E.; age, 30 years; nativity, Sweden; admitted to the U. S. Marine Hospital, Chicago, Ill., December 8, 1892; died December 17, 1892.

History.—On admission to hospital patient was suffering with marked symptoms of general tuberculosis. The most prominent symptoms were cough, diarrhea, and extreme prostration. His throat was very painful, and his food, upon being swallowed, regurgitated through the nose. Suffered great abdominal pain. This patient had been in the hospital during the previous summer with diarrhea and abdominal pain, together with symptoms of tubercle of lung, and after a short stay he had been discharged much improved.

Necropsy.—General nourishment very poor. Left lung weighed 1,150 grams and was filled with tubercles. Many cavities were found. Extensive pleuritic adhesions existed. Right lung weighed 950 grams; universally infiltrated with tubercle. Peritoneum and small intestines tubercular. Liver dark; weighed 1,900 grams.

TUBERCULOSIS OF THE LUNGS.

CASE 1.

Caries of the vertebræ.

J. C.; aged 44; nativity, Massachusetts; admitted to the U. S. Marine Hospital, Boston, Mass., July 10, 1892; died November 26, 1892.

On admission patient had severe pain in back and abdomen, also in legs and thigh, which had troubled him for several months. There was protrusion of the spine, beginning with the fourth dorsal vertebra, and extending to the seventh. Breath sounds illy defined. A few weeks before death the patient lost power over his bladder, and the urine had to be drawn every three hours. About forty-eight hours before death he began to pass his water involuntarily. Marked hyperæsthesia of the upper extremities existed for ten days preceding death; also much pain over the sternum and epigastric region.

Necropsy (*forty-two and one-half hours after death*).—Post-mortem lividity present. *Rigor mortis* marked; general nourishment very poor; pericardial sac normal. All valves of heart competent; walls normal. Right ventricle contained fibrinous clot attached to wall. Weight of heart, after opening, 245 grams. Left lung firmly bound by pleuritic adhesions over its entire surface. Lung free from tubercle; one cicatrix, probably result of tubercle; weight, 365 grams. Base of right lung filled with miliary tubercles; pus in bronchial tubes at this point; weight, 1,110 grams. Liver light brownin color, friable; weight, 1,420 grams. Yellow gravel in pelvis of both kidneys. Weight: Left, 135 grams; right, 140 grams. Sternum fibro-cartilaginous, apparently had never become ossified. Body of fourth dorsal vertebra entirely gone; bodies of third and fifth dorsal vertebræ were replaced by a cartilaginous substance, evidently produced by a reparative process. Small carious spot in body of fifth, with small quantity of pus.

CASE 2.

Chronic cystitis.

H. B.; aged 44 years; nativity, Tennessee; admitted to Marine Hospital, Cairo, Ill., April 1, 1893; died April 24, 1893.

History.—Patient emaciated; complained of cough, chills, and sweats, generally in the afternoon, and with some periodical indication of malarial infection. Dullness at apex of right lung and subcrepitant râles.

April 18.—Considerable œdema of penis with phimosis. The prepuce was slit up, allowing free evacuation of urine.

Necropsy.—Body greatly emaciated, *rigor mortis* fairly marked. Right lung studded with tubercle, not so marked upon left side. Heart normal; liver somewhat enlarged. Tubercular deposits in the mesentery. The bladder was about one-third the natural size, the walls greatly thickened and contained a small quantity of thickened urine. The penis was œdematous and gangrene had supervened. The patient had evidently had a chronic cystitis complicating a tuberculous condition.

CASE 3.

Pleuritic effusions.

B. B.; aged 42 years; nativity, Virginia; admitted to U. S. Marine Hospital, Cairo, Ill., April 7, 1893, with acute pleurisy of the left side; discharged April 29, 1893; readmitted with tubercle of lung; died May 12, 1893.

History.—Patient had been sick for a week at his home and treated by a local physician for pneumonia. There was complete dullness upon left side with evidence of fluid present. Under active treatment this disappeared to some extent. Chest aspirated under aseptic precautions and about 600 c. c. of fluid withdrawn, with improvement for a time. Evidence of tubercle of right lung present.

Necropsy (*six hours after death*).—Body emaciated; pericardium contained a slight excess of fluid and was adherent in places to the heart along the left ventricle, and also to the lung. The left cavity contained a small quantity of serous fluid of flocculent character; back layers of pleura were closely adherent and showed tubercular foci; upper lobe of right lung studded with tubercle. The heart contained antemortem clot in left ventricle, mitral valves slightly thickened; other organs in fair working condition.

CASE 4.

Empyema.

S. P. P.; age, 49 years; nativity, New York; admitted to Marine Hospital, Stapleton, Staten Island, N. Y., April 14, 1893; died May 4, 1893.

History.—Patient states that April 12, 1893, he had a chill followed by fever, and to-day, although no chill, he has had considerable pain in his back. He has had a cough for six days; soreness in right side; appetite variable; some nausea and vomiting; considerable thirst; bowels regular; dyspnœa on exertion for two or three years; occasional palpitation.

Physical examination.—Chest expansion poor; percussion dullness over lower lobe of right lung; increased vocal fremitus over same, also fine pleuritic friction sounds over lower portion and subcrepitant rales over upper portion of lower lobe of right lung. Hop poultice applied, and stimulants administered.

Evening of this day, April 14, 1893, rise of temperature and pain in chest. Phenacetin administered.

April 16, a. m.—Pain in chest continues, and also rise of temperature. Antipyretics again administered and continued when necessary through the duration of disease.

Morning of 18th, temperature nearly normal; patient greatly improved; stimulants discontinued. Patient remained in this condition until evening of 25th, when suddenly taken with acute pain in right mammary region; rise of temperature. Phenacetin administered. Temperature commenced to fall and continued to fall until a few minutes before death, it being in a great measure due to the collapsed state of the patient. Whisky, strychnia, and digitalis were administered, but notwithstanding patient sank rapidly and died at 2:20 p. m., May 4, 1893.

Necropsy.—Body poorly nourished. *Rigor mortis* marked. Post-mortem lividity not marked. Pupils dilated. Heart displaced to left side about 2 inches, and in a flabby condition. Left lung: Apex slightly infiltrated with nodules; lower and posterior parts in state of hypostatic congestion; left pleural cavity obliterated by adhesions. Right lung: In state of congestion, except around the edges; compensative emphysema; also lung compressed by pleuritic effusion. Pleura covered by layer of pus and fibrin. Pleural cavity of right lung filled with purulent fluid. Kidney slightly congested.

TUBERCULAR MENINGITIS.

E. H.; age, 22 years; nativity, Tennessee; admitted to the Marine Hospital, Memphis, Tenn., October 26, 1892; died February 21, 1893.

History.—The patient was treated at first for necrosis, tubercular in nature, of the os calcis, and an operation for the removal of the diseased tissue was performed. The second week in February a fever, with frontal headache and nervous symptoms, set in. The nervous symptoms increased and the patient became partially comatose. On February 19 there was marked Cheyne-Stokes respiration. Death took place two days later, the coma having become less pronounced but delirium being present.

Necropsy (period after death not noted).—The tubercular disease of the calcaneum had extended and involved the entire bone. Brain: The pia at the base was thickened and infiltrated with gelatinous material in places, especially around the optic chiasma. A less degree of thickening existed in the Sylvian fissure. A very few small white granules, apparently tubercles, were found in the pia of the Sylvian fissure. Two small tuberculous masses existed in the pia on the right hemisphere near the upper end of the fissure of Roland. The lateral ventricals were greatly distended with turbid fluid. The ependyma was thickened in places by gelatinous infiltration. The other organs were not examined.

TUBERCULOSIS OF THE LUNGS.

Myelitis.

W. G.; native of England; 66 years old; admitted to U. S. Marine Hospital, Baltimore, Md., March, 1893; died June 12, 1893.

History.—Previous to entering hospital patient had been having colds off and on for six weeks. Had been troubled with severe cough and catching pain in right side of chest. He was emaciated and anæmic, had feeling of lassitude, was very weak and expectorated clear, glairy mucus.

Physical examination.—Showed increased respiratory murmur and sibilant râles in both lungs, dullness at apex of left lung and over central lobe of right, and increased vocal fremitus. Hydrocele of left testicle was also present.

March 17.—Complained of being unable to pass water, and also of pain in back; had had stricture of the urethra since 1884.

April 4.—Complained of pain in right side.

April 13.—Complained of pain in back, which he said he had had for about three months; sensation of numbness in feet and legs. There was marked atheroma of arteries.

April 21.—Constipation present for some time; stomach and bowels full of gas.

April 22.—The tympanites greatly increased; urine dribbled away.

May 9.—Small sore on buttocks. For some weeks previous to his death his urine had to be drawn by catheter, owing to paralysis of bladder. The tympanites was reduced by introduction of a rectal tube. His lower extremities became paralyzed.

Necropsy (*fourteen hours after death*).—*Rigor mortis* slight. Patient was much emaciated; bed sore over sacrum and one side of buttocks. Liver somewhat larger than normal, pale in color, and on section dark-colored blood oozed out. Kidneys normal in size; capsule peeled off easily, and on section the line of demarcation between cortical and medullary portion was slightly obliterated. The pelvis contained considerable fat. On anterior surface there was a small blister-like projection which projected into the kidney substance about 4 mm. and looked like a distended Malpighian body. Stomach filled with gas and extended from left to right hypochondriac regions. Intestines also distended with gas. Spleen smooth and normal in size. Lungs adherent to chest walls and very dark in color. A large cavity in superior lobe of left and middle lobe of right. Crepilated on pressure, were spotted with small, elongated, whitish nodules which looked like tubercles. The pleural cavities were almost obliterated. The pericardium contained small amount of bloody serum. Heart was normal and contained a large clot of blood. Spinal cord: There was a cheese-like deposit in the dorsal region, about the eighth or ninth dorsal vertebra, between the bone and dura mater. In the subdural space corresponding to the above deposit, and also near the lumbar enlargement, were plates, cartilagenous in appearance, 2 by 4 mm. in size. The cord was soft close to the deposit, and on section the posterior bones were more or less degenerated.

TUBERCULOSIS OF THE LUNGS, PERITONEUM, AND INTESTINES.

P. N.; aged 31 years; nativity, Norway; was readmitted to the U. S. Marine Hospital, New Orleans, La., February 6; died June 12, 1893.

History.—After recovery from a malarial attack of some two months' duration, the symptoms of advanced pulmonary tuberculosis required attention. The cough, expectoration, night sweats, hectic fever, and progressive emaciation, with daily loss of strength, proceeded with but slight palliation from medical treatment. He faded away and died.

Necropsy (*six hours after death*).—Body that of a muscular young white man in extreme emaciation. *Rigor mortis* feeble. Heart anæmic, otherwise normal; weight, 230 grams. Lungs, left, weight 920 grams; studded with tubercles. The right lung had disappeared save a few friable scraps adherent to chest wall. Peritoneum full of large, cheesy, unctuous tubercles. Small intestine loaded with tubercles, and large intestine showing points of ulceration. Liver normal; weight, 1,500 grams. Kidneys, left, normal; weight, 160 grams; right showing a few tuberculous points; weight, 130 grams. Spleen, weight, 110 grams; pale and flabby.

TUBERCULOSIS OF THE LUNGS AND PERITONEUM.

M. K.; aged 22 years; nativity, Arkansas; was admitted to the U. S. Marine Hospital, New Orleans, La., December 31, 1892; died February 12, 1893.

History.—The patient had been in failing health for some months. He sought relief from a malarial fever (remittent type), and was much benefited. He was readmitted for treatment for tuberculosis, presenting the usual signs of emaciation, hectic fever, cough, expectoration, sweats, and progressive weakness, with frequent slight hemorrhages. A liberal diet, stimulants, soothing cough mixtures, and general hygiene greatly comforted him. He sank and died while asleep.

Necropsy (*twelve hours after death*).—Body that of a muscular young negro man, greatly emaciated. *Rigor mortis* present. Heart very small, dense; surface showing old inflammatory action; weight, 225 grams. Pericardial sac thickened. Valves competent except tricuspid, which had a singular appearance of withering. Lungs both studded with yellow and gray tubercles, many broken down and liquefied; left lung adhering so strongly to surrounding parts as to prevent removal. Right lung, weight, 525 grams. Pleural cavities obliterated. Peritoneum inflamed and studded with gray and yellow tubercles. Stomach showed a tuberculous deposit on the serous surface. Intestines studded with tubercles, which were also found in liver (weight 1,315 grams), kidneys (left 140, right 155 grams), and spleen (weight 425 grams).

TUBERCULAR PERITONITIS.

W. R.; seaman; colored; aged 47 years; a native of South Carolina; entered the marine ward of the St. Francis Xavier Infirmary, Charleston, S. C., on October 25, 1892; died November 3, 1892.

History.—Abdominal pain and swelling for several months, with emaciation but no enteric trouble. *Status præsens*: Emaciation extreme; conjunctival and mucosa of mouth quite anæmic; heart action feeble; tension lowered. Abdomen swollen and tympanitic, with some bulging on left side, with dullness. Temperature, 38° C.; pulse, 125; respiration, 20. Although abscess with thickened walls was diagnosed, the man was too weak for operation, and it was postponed until there was some increase of strength. Stimulants and predigested foods given systematically, and with slight gain in strength. On November 1 the abdomen was opened over the crest of the swelling. The peritoneum was found densely infiltrated with a new growth and forming the upper limiting wall of a large abscess, which was thoroughly drained, irrigated, and packed with iodoform gauze, a glass drainage tube depending from lower angle of incision. Reaction from anæsthetic very imperfect. Death from exhaustion. Cover slips prepared from contents of abscess gave numerous tubercle bacilli reacting with fuchsin normally, while numbers gave evidence of degeneration. Covers from contents of new growth in peritoneum also gave normal bacilli.

Necropsy (*limited to abdomen*).—Peritoneum generally thickened and firmly adherent to intestines; mesentery thickened and full of tubercular masses; glands enlarged and cheesy; intestinal serosa studded with gray tubercles; mucosa pale, but not noticeably tubercular; capsule of liver and kidneys; the spleen and the lymphatics of diaphragm all tubercular. Owing to request of relatives, no further examination was made.

GENERAL TUBERCULOSIS.

CASE 1.

R. H.; age, 35 years; nativity, England; admitted to U. S. Marine Hospital at San Francisco, February 3, 1893; died February 13, 1893.

History.—Patient complained of incessant cough, dyspnœa and pain in chest, painful and difficult swallowing, and aphonia. Sickness began December 16, 1892. The first symptom was cough. On January 5 he suffered nearly a total loss of voice. Emaciation was rapid. Patient could only swallow a small quantity of condensed milk. Physical examination disclosed physical signs of tubercle of lungs. Laryngoscopic examination showed infiltration and ulceration of arytenoids and epiglottis, as well as ulceration of left vocal cord. Temperature was irregularly remittent, maximum, 39.8° C.

Necropsy.—Left lung, a few adhesions encountered at apex; right lung, many recent pleuritic adhesions. Bronchial lymph glands greatly enlarged and pigmented. Both lungs had a lobulated feel. Very little crepitation. Both apexes carnified. Numerous small tubercular foci encountered throughout both lungs. Some œdema and congestion present. No cavities found. Pathological processes more pronounced in right lung. Larynx and mucous membrane lining layrnx thickened, infiltrated, and somewhat ulcerated. Intestine, in ileum many ulcers found; some were quite large. The transverse muscular fibers of intestine formed floor of ulcers. Ulcers had irregular, ragged, everted edges and smooth bases. Mesenteric lymph glands much enlarged.

CASE 2.

J. S.; aged 21 years; nativity, Russia; was admitted to the U. S. Marine Hospital, Port Townsend, November 24, 1892; died February 16, 1893.

History.—The patient gave a history of having contracted a cold a few weeks previous to entry to hospital. He had high evening temperature from the start, and lost weight very rapidly; had anorexia and troublesome diarrhea. Sleep could not be obtained except by the use of morphine. He was delirious at times; and when admitted his condition simulated enteric fever, and was very serious. The temperature ranged from 38° C. to 40° C., the pulse very rapid and weak. The tongue was dry, cracked, coated with a brownish coat, and red around edges. The skin was very hot and dry. Body very much emaciated. The chest examination was almost negative, as there were very few physical signs of pathological change. The percussion sound seemed to be hyper-resonant; and with the exception of a slight pleuritic sound on the right side there was no other lesion detected. There was no cough, nor was there expectoration. With the high temperature, delirium, and diarrhea, the case could easily have been mistaken for enteric fever.

Pressure on the abdomen at any point caused pain. The patient was placed on stimulants and milk diet, which caused a lowering of the temperature, checked the diarrhea, and general improvement followed. The delirium soon passed away, and in three weeks he was able to sit up for some hours each day. His appetite gradually improved up to the middle of January, when he began to grow worse, the fever increasing, the diarrhea becoming troublesome, and the general condition bad. During his entire illness there had never been cough nor expectoration. He gradually grew worse and died of exhaustion.

Necropsy (sixteen hours after death).—The body was very much emaciated. No post-mortem lividity. The thorax was opened and the contents examined. The heart was normal in size and the valves were perfect. There was a large post-mortem thrombus in the right side of the heart. The lungs were firmly bound down by pleuritic adhesions. They were of purplish color, and looked like coal miners' lungs. On removing them and making sections they were found to be studded throughout with miliary tubercles. There was not a spot that had softened, and that explains why there was no cough nor expectoration. A thin section of lung floated in water. There was no consolidation in any part. The abdomen was opened and the contents examined. Extensive tuberculosis existed throughout. The peritoneum was studded over with tubercles and was bound down. The liver was larger than usual, friable, and there were several caseous deposits the size of a hazelnut. These spots were undergoing caseation. The spleen was very large, congested, and friable. It did not contain any deposits, though the folds of peritoneum immediately covering it were covered with tubercles. The kidneys were large, hyperæmic, and exuded considerable blood on section. On the convex surface of the left kidney were two whitish spots. The capsule of the kidney at these points was adherent. The spots were fibrous, and were evidently healed tubercle tissue. The pyramidal bodies were very much inflamed, and the pelvis of the left kidney contained pus. The other organs were normal. The skull was not opened.

CASE 3.

S. L.; aged 23 years; nativity, Norway; admitted to marine ward Cleveland City Hospital March 30, 1893; died April 15, 1893.

History.—Very little information could be obtained. Cough had probably been present for a year. After admission cough not severe, sputa small in quantity. No dullness on percussion over lungs, but pain produced in left mammary region. A few coarse râles in both upper lobes. No hæmoptysis. Epistaxis three times in first few days. Abdomen quite tympanitic. Tendency to diarrhea. Petechial eruption on abdomen. Headache from day of admission. This was the main symptom. Coma supervened during last few days.

Necropsy (twelve hours after death).—Emaciated. Heart small and pale. Pericardial sac normal. A vegetation was found on auricular surface of mitral valve. Valves all competent. Walls of heart thin. Thoracic aorta normal. One small ulcer in larynx. Adhesions posteriorly and at apex in right pleural cavity; none in left. Both lungs studded with small tubercles, most marked in upper lobes; no cavities. Peritoneum normal. Stomach normal. Small intestines not inflamed; contained tubercles of pin-head size, increasing in abundance from above downward, one ulcer just at lower end of ileum. Large intestines contained tubercles of same size, most abundant above. Liver: Surface covered with minute elevations, in appearance like sudamina, really tubercles. Section of liver pale brown, mottled with yellow spots (fat); tissue firm. Weight of liver, 2.5 kilos. Gall bladder full; no concretions. Pancreas, normal appearance. Kidneys: Both large; normal appearance externally; section showed many whitish points—tubercle.

"Sago" spleen: Weight, 1.25 kilos; size, 26 by 15 by 6 cm.; color, bright red. Surface looked as if covered with pustules, a little larger than a pin's head. Section, brilliant red; tissue softer than normal; granular feeling. Whole spleen seemed composed of aggregation of yellowish granules, size of pin head and smaller, in a red stroma. Dura mater adherent to skull. A few tubercles seen on dura and pia at vertex near median line. No excess of fluid. No injection of vessels on surface of brain. Brain not removed.

CASE 4.

I. T.; aged 50 years; nativity, United States; admitted to the marine ward of the German Hospital, Philadelphia, Pa., August 4, 1892, and died September 12, 1892.

Patient on admission suffered from cough. On physical examination it was found that the right lung was consolidated. Sputum examined and tubercle bacilli were found in it. Hectic fever was also noted. The routine treatment for tuberculosis of the lungs was carried out, and cod-liver oil, whisky, atropine, quinine, and camphoric acid were administered. Toward the end the patient had diarrhea and much pain in his abdomen. Abdomen became tympanitic and dull in the flanks. Later he became unconscious and symptoms of meningitis began to show themselves. Erratic movements of the hands, tongue, and eyeballs. Pupils irregular and fixed.

Necropsy.—Thorax opened and lungs found to be diseased, especially right, which was entirely tuberculous, and throughout it cavities were found. Pleura adherent. Heart normal. Abdomen: Liver normal; tuberculous peritonitis discovered, with large amount of fluid in the peritoneal cavity. Ileum opened; ulcers found in it. Prostate enlarged and cheesy. The brain was exposed and the membranes were found to be studded with miliary tubercles, especially on the basilar portion.

LEUCOCYTHÆMIA.

Erysipelas.

D. S.; aged 31 years; nativity, Michigan; admitted to marine ward Cleveland City Hospital October 10, 1892; died December 11, 1892.

History.—Father and one sister died of phthisis. Patient has had frequent attacks of epistaxis all his life, but no other hemorrhages. Three years ago he had an attack of chills and fever. In June, 1890, he was operated on for organic stricture of urethra following gonorrhea. In July and August, 1892, he received office treatment for dyspeptic symptoms.

Examination.—Face pallid, anæmic; abdomen greatly distended, slight amount of general anasarca. Spleen enlarged, extending 3 cm. to right of median line and about 4 cm. below umbilicus, the lower part dipping into the pelvis so that the border could not be traced. Two very marked notches were found just above umbilicus. Liver somewhat enlarged. Heart pushed upward, apex beat just above left nipple. No cardiac murmur. Heart's action good. Urine, specific gravity 1017, acid, excess of amorphous urates, no albumen. No enlargement of lymphatic glands. He complained of debility, dyspnœa, difficulty in retaining and digesting food, and epistaxis one or more times each day. An examination of the blood revealed the fact that the number of white corpuscles was greatly in excess of the normal ratio. Vomiting and epistaxis, continued every day with few exceptions, occurring usually about 11 p. m. His strength, however, improved and his face gained a better color. The treatment was ferrum redactum and liq. potass. arsenitis; the latter increased to 0.80 c. c. three times a day and maintained at that dose.

December 1.—The border of spleen was a trifle to the left of the median line and did not extend so far into the pelvis as at time of admission. At this date a carbuncle developed on left side of upper lip.

December 5.—Erysipelas extended from carbuncle. The erysipelas spread over whole face and larger part of scalp and led to his death. From date of admission there was a slight evening rise of temperature, gradually increasing to the end. Pulse 85 to 100, increasing to 115 to 130 during the last week.

Necropsy (*twenty hours after death.*)—*Rigor mortis* present. Pericardial sac contained 210 c. c. of yellow fluid with flocculi; surfaces covered with flocculent material. Heart normal; wall of left ventricle seemed very thick. Thoracic aorta normal. Right pleural cavity contained 270 c. c. of yellow fluid with flocculent deposit on surfaces. No fluid in left pleural cavity. Lungs contained excess of blood. Peritonal cavity contained considerable fluid. Liver measured 31 by 28 by 9 cm., brownish red color; weight a trifle above 8 kilos. Appearance on section normal. Gall bladder very large, distended with bile; no concretions. Kidneys of normal size and color; the left contained an infarction, section of which had the appearance of yellowish-white lines perpendicular to surface of kidney. Spleen measured 35.5 by 21 by 9 cm., bright red color, tense, shining surface. Section showed same color, otherwise normal. Splenic vessels greatly enlarged. Weight of spleen 07 kilos.

CEREBRAL HEMORRHAGE.

CASE 1.

J. B.; age, 62 years; nativity, Ohio; admitted to the U. S. Marine Hospital, Chicago, Ill., June 5, 1893; died June 13, 1893.

History.—Entered hospital suffering with acute bronchitis and occasional asthmatic attacks. Loud, sonorous rales could be heard on auscultation. Patient seemed delirious first few days after admission, and altogether quite apathetic; often answering questions indirectly, or giving a meaningless answer. Complained of no pains. His arteries were markedly atheromatous. On June 13, after an attack of vomiting, he became suddenly unconscious, pulse weak, face flushed; the pupils first dilated, then contracted; breathing became difficult and laborious, and death resulted within a half hour.

Necropsy.—General nourishment good, no *rigor mortis,* and only very slight lividity. The pupils appeared normal. The heart, after opening, weighed 570 grams, the pericardial sac, contained some fluid. The left ventricle was dilated, and its wall hypertrophied. The thoracic aorta in it first portion showed calcareous degeneration, the other arteries and veins had undergone a fibroid degeneration. The left lung weighed 330 grams. The pleural cavity contained 1,500 c. c. of serum; was slightly congested and somewhat emphysematous. There were also extensive adhesions. The peritoneal cavity was full of serous fluid. The liver showed venous congestion; was dark colored and weighed 1,340 grams. The gall bladder and ducts were full of fluid bile. The left kidney was congested and weighed 170 grams. The bladder was full. Head, scalp, and skull, normal. The dura mater showed an atheromatous degeneration of its arteries. The brain weighed 1,470 grams, and on removing the calvarium about 40 c. c. of blood escaped from the cavity. It was evident that there had been a hemorrhage, though it was impossible to locate the vessels on account of the fluid condition of the blood, and consequent absence of a clot. The spinal canal contained some serous fluid.

CASE 2.

C. M.; age, 36 years; nativity, United States; admitted to U. S. Marine Hospital at San Francisco, April 12, 1893, and died April 14, 1893, at 6:45 o'clock p. m.

History.—When admitted patient was suffering from hemiplegia and aphasia. A friend who accompanied him stated that while patient was standing on deck of vessel, he fell suddenly and was paralyzed and unable to speak when found. On admission patient was conscious, but early in morning on April 14 he became comatose, and gradually sunk until the evening, when death occurred.

Necropsy (eighteen hours post mortem).—Body well nourished, posterior discoloration not excessive. Brain: Much blood escaped on removal. Meninges were congested especially over convexity and in ascending portion of fissure of sylvius. Longitudinal sinus partly filled with blood. Pia mater opaque and thickened. Considerable lymph present beneath pia mater. On section the brain appeared much congested. Ventricles, capsules, and basal ganglia appeared normal. No appearance of hemorrhage in inner structures. Cerebellum normal. Liver considerably congested. Heart normal; valves competent. Lungs œdematous and much congested. Kidneys normal. Spleen congested.

CASE 3.

A. C. B. (colored); age, 48 years; nativity, West Indies; admitted to U. S. Marine Hospital at San Francisco, Cal., January 14, 1893; died February 9, 1893, at 1:05 a. m.

History.—On admission hemiplegia of right side and aphasia were present. On account of the aphasia no satisfactory history could be obtained. On February 7 paralysis of left side ensued.

Necropsy.—Brain, weight 1,244 grams. The arachnoid on the superior lateral surface of left lobe was opaque and presented evidence of recent inflammatory action; small amount of exudation present. Brain was much congested. In the internal capsule of the left side a spot of acute softening occupied the site of the genu and anterior two-thirds of the posterior limb. In the internal capsule and lenticular nucleus of the right side the remains of an old blood clot were found. Arteriosclerosis present.

CASE 4.

H. W.; age, 57 years; nativity, Massachusetts; admitted to U. S. Marine Hospital at San Francisco, Cal., May 3, 1892, died February 3, 1893.

History.—When admitted had ordinary symptoms of cirrhotic kidney. He steadily grew worse. He also complained of rheumatism. On the day of death, while standing near the bed to micturate, he suddenly fell and became partly unconscious—left side paralyzed. In a few moments insensibility ensued, with stertorous breathing. He steadily grew worse and died about midnight.

Necropsy (*thirty-six hours post mortem*).—Body emaciated. *Rigor mortis* still present. Brain: A recent hemorrhage, evidently at first into right lateral ventricle, had excavated the whole right lobe of cerebrum, and the posterior part of the right ventricle, having apparently burst through the right lateral ventricle into the left lateral ventricle. The entire arterial system was atheromatous. No miliary aneurism was found. Thorax: lungs normal. Heart much hypertrophied; valves competent. Abdomen: kidneys cirrhotic; the right one contained three large cysts.

CASE 5.

Abscess of the brain.

E. D.; aged 47 years; nativity, Ireland; was admitted to the U. S. Marine Hospital, Port Townsend, Wash., August 26, 1892; died February 25, 1893.

History.—In June, 1892, he strained his back very severely and was in the hospital for several weeks. He left the hospital, but returned very soon with marked paralysis of the right side of the face, and complete deafness in right ear. With the exception of a severe pain referred to the right parietal region, and contraction of the pupil of the right eye, he did not have any noticeable trouble. He denied ever having had syphilis, but there were several scars on the body and two nodes on the tibia. He was placed on antisyphilitic treatment and gradually improved until January 5, 1893, when he had severe convulsion of the left arm, face, and leg. Was unconscious for several hours; had two more attacks during the night. After he regained consciousness from the last attack the facial paralysis had disappeared. The iodides were pushed and he improved until February 15, when he had another convulsion, with loss of consciousness. He grew worse rapidly, and died suddenly on February 25.

Necropsy (*twenty hours after death*).—Body fairly well nourished. No post mortem lividity. The skull was opened and the brain examined. The membranes were congested, and along the longitudinal sinus there were deposited small red granular bodies that could be crushed between the fingers. These bodies were smaller than the finest shot. The membranes were not adherent at any point. The cerebrum was pale and soft. It was handled with difficulty on that account. On severing the cord, turning up the medulla, and exposing the fourth ventricle, it was found to contain a large red clot of blood of recent formation, the probable immediate cause of death. All of the ventricles were filled with fluid. In the lateral ventricle, intimately connected with tænia, were numerous little red granular bodies smaller than those found in the membranes. Near the Island of Reil, in the cerebral tissue proper, was an abscess cavity filled with thick, greenish pus. This cavity was about the size of a small egg. The walls and tissue around the abscess were thickened and indurated. There was extensive softening of the cerebral tissue. The thorax was opened and contents examined. The heart was slightly enlarged and fatty. The lungs were normal. The abdomen was opened and the contents examined. The liver was small and contracted. The spleen was so soft and friable that it could not be removed. The kidneys were very large and the tissue was softer than usual; aside from that there was no pathological change. The other organs were normal.

CASE 6.

J. H.; colored; aged 59 years; nativity, Maryland; admitted to U. S. Marine Hospital, Baltimore, Md., April 11, 1893; died April 17, 1893.

History.—Brought to hospital in ambulance unconscious. There was paralysis of right side, and the breathing was slow and labored. Pulse very weak, scarcely perceptible at wrist. Heart beat about 75 a minute.

Necropsy.—*Rigor mortis* well marked; a mass of blood clot equaling some 60 c. c. was found in the left lateral ventricle of the brain. The skull was unusually thick and the dura mater seemed very much engorged with venous blood. Normal amount of fluid. Weight of cerebellum, cerebrum, and medulla oblongata, 1,445 grams.

CASE 7.

L. T.; aged 28 years; nativity, Alabama; admitted to U. S. Marine Hospital, Mobile, Ala., September 16, 1892; died December 14, 1892.

History.—Patient when admitted was suffering with aphasia, and paralysis of the right side of the body, being most pronounced in the leg. He improved very much under treatment, but soon had another attack of cerebral hemorrhage and grew worse. He died in one of the apoplectic attacks.

Necropsy (*eighteen hours after death*).—External appearances: Body much emaciated; *rigor mortis* slight. Post mortem lividity marked about head and neck. Cranium: Dura matter was thickened and congested. The pia matter was much congested, all the blood vessels being much dilated. The ventricles were filled with fluid. The arteries showed evidences of disease. Broca's convolution was much softened, A similar diseased condition was found in the ascending frontal convolutions on the left side. Brain weighed 1,600 grams. Other organs were not examined.

CASE 8.

G. B. W.; aged 51 years; nativity, New York; admitted to the U. S. Marine Hospital, Mobile, Ala., February 2, 1892; died July 25, 1892.

History.—On admission was suffering with paralysis of the left side of the body, which had existed for some time. Very little improvement in his condition was produced by treatment. On the night of the 24th of July he was taken suddenly worse; had convulsions, sterterous breathing and all the symptoms of cerebral hemorrhage, and died in ten hours.

Necropsy (*fourteen hours after death*).—External appearances: Post mortem lividity marked about the face and neck. *Rigor mortis*, slight; and body fairly well nourished. Thorax: Perricardium, normal; heart, normal; weight, 450 grams. Several patches of atheromatous degeneration were found in the thoracic aorta. Numerous old pleuritic adhesions were found in both the right and left sides. The lungs were normal; the left and right being of the same weight, 500 grams. Abdominal cavity: The stomach and intestines were normal. Lower, normal, weighing 1,850 grams; left kidney, weighed 160 grams; the right, 165 grams. Prostate gland was enlarged, and the urethra showed evidences of an old stricture, which had been relieved by an operation. Cranium: The scalp and skull were normal; membranes of brain were slightly congested; brain weighed 1,500 grams. The lateral ventricles were filled with recently coagulated blood; the hemorrhage having probably taken place from the middle cerebral artery. The internal capsule showed marked softening and degeneration. That on the right side of the brain being affected. Right corpus striatum showed evidences of an old hemorrhage and was softened. The cerebral arteries had become atheromatous in several places.

CASE 9.

Traumatic.

J. W.; aged 58 years; nativity, America; admitted to the Marine Hospital, Stapleton, Staten Island, N. Y., July 31, 1892; died August 4, 1892.

When brought to the hospital patient was in an unconscious condition. The history obtained from his friends was that during the night he had had a fall which rendered him unconscious. On inspection a lacerated wound about 3 cm. in length was seen, situated over the right parietal bone about 6 cm. above mastoid process. No fracture of bone was found; right pupil dilated, left contracted; contusion of both eyes; unconscious and could not be aroused, though apparently sensible to pain; no paralysis; about 100 cm. of urine were drawn off with catheter. Temperature, 36.5; pulse, 64, and strong; respirations, 25; no stertor.

July 31, p. m.—Temperature, 36.5; pulse 78, and strong and full; respirations, 28, and quiet; pupils in same condition; very restless and passes his urine involuntarily.

August 1, a. m.—Temperature, 36.4; pulse, 84, and strong; respirations, 28; opens his eyes but unable to speak; swallows milk when given slowly; passes fæces and urine involuntarily; no paralysis.

August 2, a. m.—Temperature, 37; pulse, 72; respirations, 22. Patient seems to be gradually returning to consciousness and speaks when attempts are made to arouse him. Still has involuntarily evacuations of fæces and urine.

August 3, a. m.—Temperature 36.5; pulse 92, and strong; respirations, 24. No paralysis; pupils about normal. Still passes fæces and urine involuntarily.

August 4, a. m.—Temperature, 37; pulse, 96; respirations, 26, and quiet. Seems to be rational but unable to articulate. When asked to protrude tongue does so with difficulty and allows it to remain out until told several times to withdraw it. Still passes urine and fæces involuntarily.

August 4, p. m.—Temperature, 37; pulse, 78, and very weak; respirations, 48, and labored; pupils dilated; insensible to pain, and can not be aroused. Rapidly grew worse, and died at date stated above.

Necropsy (*fifteen hours after death*).—Body well nourished; *rigor mortis* well marked; hypostatic congestion posteriorly. On removing the scalp no fracture was found. Beneath the calvarium a large diffused blood clot, about 5 cm. in length and about 3 cm. in breadth, was found between the dura mater and skull in the right side, and also another as large as the first was found between the arachnoid and pia mater. The clot pressed on the right parietal, occipital, and temporo-sphenoidal lobes. A clot of blood was also found on the left side nearly as large as the one on the right side and pressing on the corresponding parts of the brain. The middle meningeal artery of right side was ruptured; the one on the left side was intact. The membranes were deeply congested and vessels filled with blood. The brain was congested, but no hemorrhage was found, and the tissues appeared to be normal.

ACUTE CEREBRAL MENINGITIS.

M. K.; aged 40 years; nativity, Norway; admitted to the marine ward, St. Vincent Hospital, Norfolk, Va., April 24, died April 30, 1893.

History.—Had been sick seven days. Showed violent and persistent headache, with sopor. Breathing rapid and entirely costal. Tenderness under border of the left ribs. Pulse, 56, full and slow. Headache continued until death. Other symptoms disappeared in thirty-six hours. Never delirious, but tendency to coma increased.

Necropsy (*three hours after death*).—Large muscular man, but in good condition. Brain: meninges adherent over the whole vertex, with soft, fibrous, purulent exudation; vertex of brain softened. Fluid in ventricles bloody and thick. All organs of the chest and abdomen, including kidneys, normal.

ACUTE INFLAMMATION OF THE BRAIN AND MEMBRANES.

G. B.; aged 23 years; nativity, Austria; admitted to Marine Hospital, Stapleton, Staten Island, N. Y., March 6, died March 7, 1893.

History.—When patient was admitted he was having paroxysms of wild delirium every two or three minutes, in which he would drag himself about the floor, shouting and raving. During the intervals he would lie quietly, the eyelids would close, and for a moment it would seem that he was asleep, when of a sudden the delirium would again seize him. There was no evidence of pain. Temperature, 37.3° c. Pulse, 76. Respirations, 20. Tongue could not be seen, but there were sordes on the teeth and dried mucus about the lips. Lungs and heart were apparently normal. No indication of disease about the liver or spleen. The bladder was greatly distended; a catheter was introduced and 800 c. c. of reddish-colored urine withdrawn; specific gravity, 1.040; acid reaction; considerable quantity of albumen. Administration of sedatives quieted the delirium. Early the following morning signs of œdema of the lungs appeared. Patient sank into a coma, from which he could be momentarily aroused. Oedema increased, face and extremities became cyanosed, temperature suddenly rose to 40.1° C, and patient died at 3.25 p. m.

Necropsy (nineteen hours after death).—Body well nourished. Post-mortem rigidity marked. On removing the calvarium a considerable quantity of blood escaped. The meningeal vessels were engorged. Directly over the center of the superior longitudinal sinus the dura mater was inflamed, discolored, and congested. Owing to the dark color of the Pacchionian bodies they appeared to be elevated. The vessels beneath the pia mater were injected, and on the surface of that membrane at various points were fibrinous deposits. On the under surface of the medulla was a slight layer of fibrin. The cerebral cortex was darker than normal, and presented small hemorrhagic foci. On section of the white matter the puncta hemorrhagica did not appear more quickly than normal, but in larger number. The valves of the heart were competent. Both lungs were deeply congested. Liver somewhat enlarged and the bile ducts were filled with bile. Spleen normal. The kidneys were pale, and between the pyramids of Ferrein were white striæ which interlaced beyond the apices of the pyramids, forming a network which extended to the cortex. Bladder normal.

INFLAMMATION OF THE BRAIN AND MEMBRANES.

Scelerosis of the posterior columns of the cord.

G. C.; aged 48 years; nativity, Ireland; was admitted to Marine Hospital, Stapleton, Staten Island, N. Y., May 20, 1892, and died March 27, 1893.

History—Patient said on admission that he had been sick for two years, and that just prior to admission he had fallen down, partially losing consciousness; when consciousness returned he found he was unable to walk. Apparently from this fall, his mental condition was such that he could not give any clear account of his condition. Physical examination of chest and abdomen did not reveal any abnormalities. He weeps on being questioned and denies history of gonorrhea or syphilis. Both patellar reflexes greatly exaggerated. No ankle clonus. Has great difficulty in standing alone, and while walking the ball of foot scrapes the floor. No "girdle sensation." He has no control over sphincters. Patient remained in this condition until about August 11, when he had a paraplegic convulsion for about twenty minutes, followed by paralysis of the muscles of the left side of the body, which disappeared, with the exception of the left leg, the following day. As his condition became worse his hands were confined at night. About the middle of December patient began to grow worse. On March 21, at 11.15 p. m., patient had another attack; he was in a semicomatose state, the whole of the left side of the body being in a state of clonic spasm. The tongue was drawn to the left. The day following there was considerable nystagmus. Patient remained in this condition until the 27th, when he died at 8.36 p. m.

Necropsy (*twelve hours after death*).—Body emaciated. *Rigor mortis* well marked. Hypostatic congestion posteriorly. Bed sore over sacrum. Upon removal of calvarium the dural veins are found to be congested, as is also the brain, which is somewhat harder than normal. Pia mater very much thickened. There is a slight hemorrhage in cortex over Sylvian fissure, due to an atheromatous condition of arteries. Vessels of both lateral ventricles, and choroid plexuses congested. Naked eye appearance of lenticular neucleus on right side differs from that of the left, but the exact change could not be made out macrescopically. The pia mater over the motor area of the right cerebral hemisphere was very much thickened and congested. The meningeal, cerebal, and basilar arteries were very much distended and decidedly atheromatous, so as almost to break under pressure.

CEREBRAL MENINGITIS.

J. K.; aged 32 years; nativity, New York; admitted to the U. S. Marine Hospital, Baltimore, Md., December 8, 1892; died March 13, 1893.

History.—On admission was suffering from severe case of orchitis of right testicle. Gonorrhea had preceded the orchitis, but there was no discharge from penis at the time of admission. Orchitis subsided in about ten days, when patient developed symptoms of brain trouble, which commenced with a fit, followed by coma lasting several hours. On further examination patient gave history of several injuries of the head, the last injury occurring about four weeks before coming into hospital and the first about four years ago. There was a small depression in the frontal bone, just below left frontal eminence, due to the injury four years ago. He had a slight scalp wound just under the left parietal eminence. Patient gradually became worse until death occurred. A few days after the first fit he lost power of speech, became very weak and unconscious. Later on he rallied and became rational, but only for a short time, when another fit, with accompanying symptoms of the first, occurred. The contents of rectum and bladder were passed involuntarily. These fits took place at intervals until death.

Necropsy (*ten hours after death*).—*Rigor mortis* well marked. Body emaciated. Skull: Of normal thickness, with exception of squamous portion of left temporal bone, which was about twice as thick as that of the right temporal. Internal surface of squamous portion of temporal and left lesser wing of sphenoid very rough. Membranes of left hemisphere corresponding to rough projections of bone very much congested, and adherent to brain substance as though a clot had formed and undergone degeneration involving membranes and brain substance. Brain weighed 1,556 grams. Both hemispheres very soft, especially the left temporal lobe, which was of a mushy consistency. The corpus callosum and medulla oblongata breaking up in irregular granular masses resembling putty. Other organs not examined.

DEMENTIA.

Probably syphilitic meningitis.

L. R. S.; aged 43 years; nativity, unknown (supposed New York State); was admitted to the U. S. Marine Hospital, New Orleans, La., October 13, 1888, and died May 31, 1893.

History.—On admission no satisfactory account could be obtained, the patient alternating obstinate silence with a stream of obscene, profane abuse. He was transferred to the Louisiana Retreat for the Insane, where he required either the muffs or the padded room continuously. He was exceedingly destructive and could be clad only in a sheet, and had frequent homicidal outbreaks. Nature finally succumbed.

Necropsy (*twelve hours after death*).—Body that of a muscular middle-aged white man, much emaciated and scarred from self-inflicted injuries. *Rigor mortis* marked. The head only was examined. On removing the skullcap the sinuses were found full of dark, very fluid blood, a large quantity escaping. The encephalon was congested, and at the vertex a circular patch of syphilitic deposit, fastening the dura and pia mater firmly to the brain substance, of 4 cm. diameter was found, affecting both hemispheres, with a finely granular deposit along the course of the longitudinal sinus. Brain weight, after careful draining, 1020 grams.

VALVULAR DISEASE OF THE HEART.

CASE 1.

Aortic.

G. K.; aged 36 years; nativity, England; admitted to marine ward, Cleveland City Hospital, December 27, 1892; died January 2, 1893.

History.—Twenty years ago he had two severe attacks of inflammatory rheumatism. In August, 1892, he first noticed a palpitation of heart and difficulty in breathing. He received hospital relief from September 23 to November 8, 1892. At that time he complained of great shortness of breath after slight exertion. Heart found enlarged; systolic murmur prominent over whole præcordia, with little difference of intensity. He left the hospital little improved and returned December 27, 1892, much worse. There was now œdema of lower extremities, and the interference with respiration was greatly increased.

Necropsy.—*Rigor mortis* present. Emaciated. Pericardial sac normal. Heart large, valves apparently competent, except aortic, which was replaced by a solid ring of calcareous deposit. Thoracic aorta normal. Both pleural cavities contained slight adhesions. Left lung normal; right normal, except small consolidation at base of upper lobe. Considerable fluid in abdominal cavity. Intestines normal, rectum had unusually small caliber. Liver rather small, probably fatty. Kidneys and spleen normal. Skull opened; brain and membranes normal.

CASE 2.

Aortic.

J. W.; aged 49 years; nativity, New Hampshire; admitted to marine ward, Cleveland City Hospital, May 15; died June 1, 1893.

History.—He received treatment for rheumatism ten years ago in the hospital at Buffalo, and at this port six months ago for an organic stricture of urethra. No symptoms of other disease noted at the latter time. He was admitted this time complaining of dyspnœa, anasarca, pain in back, and cough, and stated he had felt perfectly well until three weeks previously. Action of heart regular, a murmur heard with each sound; the most pronounced murmur seemed to be a systolic one at apex. Urine scanty, no albumen. Anasarca and dyspnœa continually increased.

Necropsy (*twelve hours after death*).—Heart enlarged. Pericardial sac held 75 c.c. clear fluid; there were white patches on the visceral layer. There were perforations in the cusps of the aortic valve and the margins were ragged; in fact, long pointed pieces; no deposits on them. The margins of the mitral valve were thickened; otherwise, valve normal; other valves normal; walls of heart thinned; signs of atheroma at beginning of thoracic aorta. In left pleural cavity there were adhesions at the apex; and also to the pericardium and diaphragm; no adhesions in the right; large amount of clear serum on both sides and in abdominal cavity. Cicatrices were found at apices of both lungs, with cheesy deposit. Lungs œdematous; deep slate color. Intestines not opened. Liver of normal size, fatty, containing excess of blood. Kidneys, both rather small; the right had a cicatrix on border about center, depressed nearly through cortex. Urethra patent, but showing evidences of several strictures.

CASE .

W. W.; seaman, aged 41 years; a native of Massachusetts; entered the marine ward of the St. Francis Xavier Infirmary, Charleston, S. C., July 29; died August 10, 1892.

History.—Patient had been under dispensary treatment for several years, presenting at first a purely marked aortic stenosis, with subsequent contraction of the rigid leaflets, and insufficiency, which slowly induced hypertrophic dilatation of left ventricle, and finally relative insufficiency from auriculo-ventricular enlargement. Upon admission he gave every evidence of approaching dissolution from heart failure. There was a most intense venous engagement, the right heart overburdened, and the lungs ædematous; general anasarca. Treatment to meet symptoms.

Necropsy (*seven hours after death*).—Body of male adult; 170 cm. in height; 85 cm. around shoulders; general lividity; rigor slight; pupils dilated. Heart very much enlarged; in diastole; pericardial sac distended with 400 c. c. of fluid; valves, aortic (opening), 1.8 cm.; mitral, 3 cm.; left wall 1.6 cm. thick; right wall, 0.9 cm. thick; aorta dilated and atheromatous; some lime deposit in the valve leaflets. All organs congested, but macroscopically normal.

CASE 4.

Aortic regurgitation, with pulmonary abscess.

T. O.; aged 28 years; nativity, Norway; admitted to marine ward, St. Mary's Infirmary, Galveston, Tex., March 6; died March 9, 1893.

History.—A summary of chills and fever, followed in a week by distress in breathing and swelling of lower extermities. Condition of heart very bad, and no normal valvular sounds distinguishable. Exacerbations of fever while in hospital. Death from blocking of heart and lungs. History of rheumatism some years ago.

Necropsy (*one hour after death*).—Body well nourished. General anasarca, extending from above downward. Heart large and flabby; hypertrophy overbalanced by dilatation; right auricle distended with blood; pericardial sac containing some serous fluid. The mitral, tricuspid, and pulmonary valves were competent, while the aortic was incompetent. A ring of warty vegetations existed at the bases of the aortic semilunar valves within the ventricle, and the base of the right posterior valve was perforated by a large opening. Both ventricles were dilated, the walls of the left thickened. Left lung œdematous and adherent in several places; right lung œdematous, one large band of adhesion extending across to a necrotic focus on the anterior surface of the middle lobe. The necrotic focus was a small abscess, diametor about two c. c. with cheesy walls. It had perforated the surface of the lung, but was separated from the pleural cavity by adhesions. Liver probably in first stage of chronic interstitial hepatitis. Kidneys apparently normal. The spleen was more than twice its natural size. Some fluid in peritoneal cavity. A wrong diagnosis of endocarditis was made in this case on account of the history of an acute onset of the cardiac and general distress, the presence of fever also complicating the case. The sudden development of distress was due probably to the perforation of the semilunar valve.

CASE 5.

Aortic.

M. B.; aged 52 years; nativity, Germany; admitted to the marine ward of the German Hospital, Philadelphia, Pa., October 26, died October 28, 1892.

History.—Patient was suffering from general anasarca on admission and could scarcely walk. He was very much distressed and was breathing rapidly. The respirations were 30 to the minute, and his pulse 96; a history of syphilis was obtained from the patient. He failed rapidly, his abdomen becoming distended with ascitic fluid, which greatly hindered respiration. On auscultation a loud, blowing murmur could be heard over the aortic region; the murmur was both diastolic and systolic. The heart was greatly enlarged and the impulse very forcible. Albumen in considerable quantity was found in the urine; also tube casts. Digitalis, strychnia, and nitrite of amyl were administered, also whisky. Patient died suddenly in bed, and there was a slight hemorrhage from the mucous membrane of the mouth.

Necropsy.—There was marked general œdema. The thorax was opened and heart examined. Ulcerative endocarditis was noted; the leaflets of the aortic valves were necrotic and an aperture was found in one of them. The valve leaflets were stiffened and thickened at their bases. The heart was much hypertrophied and dilated, the right heart was full of blood, and coronary arteries were empty. Lungs were œdematous. The peritoneal cavity contained considerable serous fluid. The kidneys showed evidences of parenchymatous degeneration.

CASE 6.

Mitral Œdema—Hydrothorax.

P. B.; age, 48 years; nativity, England; admitted to U. S. Marine Hospital, Chicago, Ill., November 9; died November 25, 1892.

History.—Was in hospital from June 14, 1892, until October 20, 1892, under treatment for valvular disease of the heart. He left the hospital much improved. Was again admitted November 9, 1892, in a much worse condition than formerly. He had extreme pain over the precordial region and in back on left side. There was considerable œdema of the feet, legs, thighs, and genitalia. There were evidences of congestion in the lower portion of the lung on both sides. Murmur was well marked over the apex of the left ventricle, occurring before and during the cardiac systole. There was great weakness, increasing dyspnœa, and loss of appetite. Pulse weak, at times almost imperceptible. Treatment consisted of efforts to stimulate the heart and to relieve pain.

Necropsy.—The heart weighed 350 grams. The mitral valve had deposits of considerable thickness in its substance, calcareous in nature. The auriculo-ventricular valve was contracted. Left auricle dilated, as was the right auricle. Right ventricle hypertrophied. The left lung was consolidated posteriorly, and weighed 770 grams. There were tough pleural adhesions on this side. The right lung weighed 570 grams, and was displaced upward by a large amount of fluid in the pleural cavity. There was evidence of recent pleuritic exudation. The liver was congested, dark, and weighed 1,220 grams. Both kidneys were congested; the left weighed 160 grams, the right, 130 grams. The spleen was congested, and weighed 170 grams.

CASE 7.

Mitral embolism of the lung and lungs.

A. B.; aged 28 years; nativity, Newfoundland; admitted to the U. S. Marine Hospital, port of Boston, Mass., June 25; died July 11, 1892.

The only history that could be obtained was that he had been feeling badly for three weeks. Severe pain in both hypochondriac regions when he drew a deep breath. Bowels constipated; appetite very poor.

June 14.—Sounds of heart and breath sounds very feeble, no râles or heart murmurs can be detected.

June 15.—Vomits occasionally.

June 17.—Dyspeptic symptoms very marked; pain and feeling of weight in stomach a short time after eating.

June 18.—Vomited again yesterday; much pain and tenderness in epigastric region.

June 20.—Patient persistently constipated.

June 23.—Vomited a good deal to-day, vomitus containing much blood, which was clotted and of a coffee.ground color. This blood, together with the persistent epigastric pain and anorexia determined the diagnosis, "ulcer of the stomach."

July 7.—Pain and tenderness in right hypochondriac region. Liver noticed to be somewhat enlarged, projecting about 5 cm. below the lower border of ribs.

July 11.—Liver much enlarged and quite hard to touch. Patient has much pain in right hypochondriac region over seat of liver.

Necropsy (*twenty-one hours after death*)—Post-mortem lividity and *rigor mortis* present. General nourishment poor. Pericardial sac contained about 30 c.c. clear serum. Aortic, pulmonary, and tricuspid valves competent. Mitral valve incompetent and thickened at edges. Cavities of heart normal. Wall of left ventricle slightly hypertrophied; wall of right ventricle normal. Weight of heart, 343 grams. Aorta normal. Both pleuræ firmly adherent to lungs over whole surface. Lungs filled with hard nodules, varying in size from the size of a walnut to that of a small orange. These presented the appearance of old and well-organized blood clots, being white in the center, and firm, softer and redder nearer the periphery. Weight, left, 940 grams; right, 1,069 grams. The peritoneum contained blood clot, amounting in weight to 690 grams, and much blood, which was the immediate cause of death The liver was fatty and filled with hard masses, similar to those found in the lungs, one of the masses being the size of a man's two fists. This mass was behind the transverse colon and was pressing it forward. There were also numerous soft hemorrhagic infarctions in the liver. At the site of one of these infarctions in the right lobe the peritoneum and liver tissue covering the infarction had ulcerated, leaving the patent mouths of the vessels of the liver communicating with the peritoneal cavity, which vessels were the source of the hemorrhage into the cavity. Liver grayish in color; weight, 2,930 grams. Gall bladder and ducts distended. On the right side of the brim of the pelvis, just in front of the sacro-iliac joint, was an infarction such as was found in the lungs and liver, about the size of an orange. This infarction was covered by peritoneum and attached to the brim of the pelvis by mesentery. Spleen normal.

CASE 8.

Mitral.—Embolism of the basilar artery.

J. N.; aged 28 years; nativity, Sweden; admitted to the U. S. Marine Hospital, port of Boston, Mass., July 1, 1892; died July 4.

Patient was speechless when admitted, so no previous history of the case could be obtained. He was conscious and could understand questions which were put to him and would reply by motions of his head. Was taken sick two nights before admission; bowels persistently constipated; passes water involuntarily; pupil of right eye dilated. Left eye has been injured; state of pupil on that side not reliable. Pulse slow, breathing somewhat stertorous. Left hemiplegia present.

Necropsy (*eleven hours after death*).—Post-mortem lividity present; *rigor mortis* present; general nourishment good. Pericardial sac normal; ventricles of heart normal in size and thickness; large antemortem clot in right ventricle. Aortic, pulmonary, and tricuspid valves normal. Mitral valve incompetent, with thickening at edges. Two emboli in the basila artery. Blood vessels of brain quite full; no softening.

CASE 9.

Mitral.—General œdema.

C. C.; age, 48 years; nativity, England; was admitted to U. S. Marine Hospital, Chicago, Ill., October 10, 1892; died December 17.

History.—On admission to hospital patient had œdema of lower extremities and genitalia. Also had a mitral regurgitant murmur; heard with considerable distinctness over the apex during cardiac systole. Examination of urine showed no albumen. Patient had had symptoms of secondary syphilis following a sore contracted some years before. He was given iodide of potassium with mercury, also digitalis, and under this treatment he improved. In the latter part of November the quantity of urine passed became much diminished and œdema reappeared. Albumen in urine became considerable, and the quantity of urine passed in twenty-four hours was reduced below 500 c. c. Digitalis, strophanthus, and caffein were tried. Respiration became steadily more embarrassed until death.

Necropsy.—Lividity marked; *rigor mortis* only slight. Heart weighed 750 grams. Pericardial sac full of fluid. Left ventricle dilated and walls hypertrophied, while the mitral valves were incompetent. On both sides of the chest there were numerous tough pleuritic adhesions. The liver weighed 1,700 grams. The kidneys each weighed 250 grams, and in the cortex of the left was a small fibrous growth.

CASE 10.

Mitral.—Embolism; organic stricture urethra.

A. T.; aged 72 years; nativity, Italy; was admitted to the U. S. Marine Hospital, New Orleans, La., December 26, 1892; died January 4, 1893.

History.—No satisfactory account could be had of the case further than that after some weeks' illness hemiplegia had developed suddenly about a week before he was brought to the hospital. Urine dribbles from the urethra constantly. Patient in stupor, left side apparently paralyzed. Diarrhea. On attempting to relieve bladder by catheter, a tight stricture, 2 cm. in length, reinforced by two smaller ones, was found in pendulous portion of urethra, with an enlarged prostate. A supportive and alterative treatment was instituted, and the patient having rallied to some extent divulsion of the strictures was performed, under ether, on December 28. The patient stood the operation well, appeared brighter and stronger, and was much encouraged. A stimulating and supporting treatment was begun; the patient, however, soon began to sink, and finally passed into coma and died.

Necropsy (eleven hours after death).—Body that of a large, well-nourished white man, with large bed-sores on buttocks and shoulder blades. Post-mortem lividity and *rigor mortis* pronounced. Heart softened, fatty; weight, 540 grams. Pericardial sac distended with pale, straw-colored serum. Heart valves normal, except the mitral, which was notably incompetent. Left ventrical hypertrophied. The aorta at its origin had developed an aneurismal pouch. Lungs normal, though congested; weight, left, 717 grams; right, 585 grams. Left pleural cavity obliterated at points. Liver surface roughened on section, showing cirrhosis; color, dark brown; weight, 1,660 grams. Kidneys contracted, nutmeg-like, granular, with fatty margins; weight, left, 262 grams; right, 279 grams. Bladder wall hypertrophied. Urethra showing site of late strictures, of dense tissue. Spleen ruptured on removal; soft and mushy.

CASE 11.

Aortic and mitral.

W. W.; aged 33 years; nativity, West Virginia; admitted to U. S. Marine Hospital, Cincinnati, Ohio, April 3, 1892; died August 7.

History.—During the course of his disease some of the usual symptoms of aortic regurgitation were prominent, as venous pulsation, Corrigan's pulse, œdema of lower extremities, etc. Aneurism was diagnosed but not located.

Necropsy (five hours after death).—General anasarca; all serous cavities containing more or less amber-colored fluid, the pericardial sac having about 60 c. c. Heart pale, and flabby, and much enlarged; apex situated about seventh rib, near axillary line. Right side dilated; ventricle normal length, containing recent and older clots. Tricuspid valves normal, but incompetent for the dilated orifice. Left ventricular walls thickened, cavity dilated, having post-mortem clots. Aortic valves roughened, deformed, and with one semilunar valve torn. Mitral valve incompetent.

Cleared of clots the heart weighed 600 grams. The aorta was expanded into a small saccular dilatation, projecting upward and forward, proximal to the innominate. The walls of the aneurism were denuded of intima in several places; no fibrinous deposits. Both lungs were œdematous and adherent to chest walls in many places. Adhesions were recent and easily broken. A well organized clot about the size of a hen's egg was found in lower right pleural cavity. Liver was nutmeg in color and adherent to diaphragm.

CASE 12.

Aortic and mitral.

J. H.; aged 53 years; nativity, Ireland; admitted to Marine Hospital, Stapleton, Staten Island, November 12, 1892; died November 15.

History.—Patient entered hospital complaining of severe cough, dyspnœa, and palpitation of heart. Expectoration was profuse and at times large quantities of blood were raised. Body was poorly nourished. Legs œdematous, and swollen to nearly twice their normal size. Abdomen distended with fluid. Respiration hurried and labored. Coarse mucous, sonorous, and sibilant rales heard in both lungs. Heart was rapid. Apex beat moved to the left. Carotid arteries pulsate, area of cardiac dullness increased. Murmurs were heard at the aortic and mitral orifices. Patient was unable to lie down. Dyspnœa increased, and death occurred at 1:15 a. m. December 15.

Necropsy (*ten hours after death*).—Pericardial sac contained a large quantity of fluid. Heart was greatly enlarged. The walls were thin. Both sides contained post-mortem clots, and the right ventricle contained an ante-mortem clot of considerable size. Mitral valve thickened and adherent in places to the walls of the ventricle. Posterior segment of aortic valve atheromatous, as was the aorta in some places. Left lung congested at base and œdematous throughout. Right lung adherent from base to apex and deeply congested. Liver tough under the knife and nutmeg in appearance. Right kidney small and indurated. Left had a cavity in its upper half containing 40 c. c. of straw-colored fluid and lined with mucous membrane; lower half presented the same general appearance as right kidney. Bladder contained about 250 c.c. high-colored urine. Peritoneal cavity contained a large quantity of yellow serous fluid.

CASE 13.

Aortic and mitral.

C. O.; aged 47 years; a native of Sweden, was admitted to the U. S. Marine Hospital, St. Louis, Mo., February 14, 1893; died March 8.

History.—Family history could not be ascertained. Several years previous to his admission he had had chronic diarrhea. Nine years ago he had varioloid. He never had had rheumatism. Five weeks previous to his admission he was troubled with dyspnœa. Ten days before admission he noticed that his feet began to swell. Had a slight cough. Area of precordial dullness much enlarged. The heart sounds at the apex were muffled, at the base were heard distinctly and were normal. Had no trouble with micturition. Slept well.

March 3.—Was taken suddenly worse at 10:30 p. m. During the day he complained of pain in his head, for which he was given 1.2 grams of bromide of potash. In the evening he suddenly became unconscious. His face was cyanosed. Pupils of normal size, but did not respond to light. Sensation to pain diminished. Frothy mucus escaped from his mouth. Could not swallow. Respiration stertorous. Cheeks lax, puffing out at each expiration. Moved his body in any direction. He was given sulphate of morphia 0.01, whisky 25 c. c., in 150 c. c. of warm milk by the rectum.

March 4, 1:03 a. m.—I saw him again. His condition was the same as at 10:30 p. m. of the 3d, except that his pupils were contracted and did not react.

March 4, 9 a. m.—Patient more comfortable. His face had a dusky, cyanosed appearance. He had no pain. Had some cough; sputa were tinged with blood. The sputum was raised easily. The pulse was irregular and at times very weak. Twice during the day he became very restless and sulphate of morphia 0.01 was given hypodermically. Milk digested with pancreatin was given every fourth hour.

March 5, 9 a. m.—Patient resting easily. Coughed some and wanted to get up. There was no paralysis. Pupils reacted. Coarse rales over both lungs and dullness over the left lower lobe. Patient taking digested milk 150 c. c. every fourth hour. He also took 1 gram of bromide of potash every fourth hour.

March 6, 9 a. m.—Patient doing well, but has some fever. The temperature rose suddenly to 39.8 in the afternoon. The cough was the most troublesome symptom. He still expectorated some blood. Tongue dry, and patient weak.

March 7, 9 a. m.—The breath was fetid. Patient answered questions intelligently, but was occasionally delirious. Pupils reacted. No paralysis. Respiration shallow. The patient gradually failed and died on the 8th at 2:30 a. m.

Necropsy (*twelve hours after death*).—Body: Scars on legs and enlarged veins. Postmortem lividity in all dependent parts. Brain: Dura and pia mater adherent along the longitudinal fissure. The veins of the pia mater were distended with blood. A large number of bodies resembling sago extended into the lumen of the longitudinal sinus. Lungs: Right lung in condition of hypostatic pneumonia, more marked in upper lobe. Lung tissue crepitated in every part in front. Weight, 1,170 grams. Left lung had hypostatic pneumonia in both lobes and weighed 1,280 grams. Heart: Aortic valves slightly inefficient. Patches of false membrane on right and left ventricles and on the base of the heart. Calcification of each cusp of aortic valves. Valves not adherent along the border. Pulmonic valves normal. Mitral valves much thickened. Vegetations along the free borders of the mitral valves. Weight of heart, 650 grams. Spleen: Soft and friable; weighed 500 grams. Kidneys: Normal; each weighed 175 grams. Liver: Had a deep cicatrix on upper surface of right lobe; weighed 2,020 grams.

CASE 14.

Aortic and mitral.—Cysts of the kidney.

D. C.; aged 56 years; nativity, Madeira Island; admitted to Marine Hospital, Stapleton, Staten Island, June 22, 1892; died January 13, 1893.

History.—On admission patient stated that he had been coughing for six weeks. He complained of dyspnœa and palpitation of heart. Body was fairly nourished. Chest expansion diminished. Moist rales heard in both lungs. Loud systolic murmur heard at apex of heart. Abdomen and scrotum distended with fluid. Legs were swollen and they pitted on pressure. Urine contained about 5 per cent of albumen. Under treatment the œdema disappeared from the legs, but the ascites was unaffected. October 17, the peritoneal cavity was tapped and about 10,000 c. c. of serous fluid removed. The abdomen did not again become distended enough to cause inconvenience. About this time vitiliginous spots appeared upon the abdomen above the pubes and upon the hands. Cough continued with more or less severity till death. During the last six weeks there was considerable nausea and vomiting. Emaciation was progressive. About five days before death there was an attack of bronchitis, which seemed to hasten the fatal termination,

Necropsy (*twenty-four hours after death*).—Body emaciated. Many large spots over abdomen and limbs devoid of pigment. Pericardium adherent to heart and great vessels. Aorta was thickened in places. Aortic valve was calcareous. Segments of mitral valve adherent to walls of ventricle. Antemortem clots in right ventricle and pulmonary veins. Right lung œdematous throughout. Left lung adherent to chest wall posteriorly, œdematous, and reduced in size by pleuritic effusion. Surfaces of liver covered with white fibrinous deposits. On section it was tough and was seen to be nutmeg in appearance. Gall bladder full. Spleen in much the same condition as liver. Kidneys were small. The left was tough and fibrous. The right contained three cystic cavities, which occupied nearly the entire organ. The bladder was normal in appearance and contained a small quantity of urine.

CASE 15.

Aortic and mitral.

R. A.; aged 22 years; nativity, United States; admitted to the marine ward of the Sisters of Charity Hospital, Buffalo, N. Y., on November 3, 1892, with diagnosis of mitral regurgitation and obstruction.

Physical examination showed marked hypertrophy of heart, with apex beat near sixth intercostal space. On auscultation both presystolic and systolic mitral murmurs could be heard. After admission he grew rapidly worse and died on November 16, 1892.

Necropsy (thirty-three hours after death).—Only the heart examined. Considerably hypertrophied. Pericardium normal. Pulmonary valves normal. Mitral valves much thickened and incompetent; result of old endocarditis. Mitral opening much stenosed, barely admitting tip of index finger. On auricular side of valve there were two rough warty growths not of recent formation. Although the aortic valves were carefully auscultated during life no murmur could be heard, but at the necropsy marked thickening of the segments was found.

CASE 16.

Aortic and mitral.

H. K.; aged 39 years; nativity, New York; admitted to the U. S. Marine Hospital, Chicago, Ill., December 6, 1892; died January 22, 1893.

History.—This man had been treated at this station a number of times before. He had a weak and dilated heart, with some valvular incompetency, frequently as a result of alcoholic excesses, a "failure of compensation" would occur, resulting in ascites. His admission in December was on account of a repetition of the attack as above described. Notwithstanding active treatment directed toward a reinforcement of the cardiac energy, his ascites became anasarca. So great was the tension in certain parts of the body, particularly in the scrotum, that sloughing took place to the extent of exposing the testicles with only their immediate covering, the tunica vaginalis testis, just before death. There was great dyspnœa and rapid heart failure toward the last. Death took place from heart failure.

Necropsy.—The body nourishment was good, and neither post-mortem lividity nor *rigor mortis* was especially marked. The pupils were equally dilated. Circulatory organs: The heart, after opening, weighed 650 grams. There were pericardial adhesions and the sac was filled with fluid. Both ventricles were dilated and also the right auricle. The valves were incompetent. Lungs: These presented no striking abnormalities except congestion. The left weighed 725 grams, the right 720 grams. Both pleuræ were the seat of extensive adhesions. The liver weighed 2,540 grams, was light in color, and showed increase in connective tissue with slight fatty degeneration. The kidneys were both congested and showed increase of connective tissue. The left weighed 175 grams and the right 180 grams. The spleen weighed 350 grams, was very dark in color, and showed increase in the amount of connective tissue.

CASE 17.

Aortic and mitral.—Chronic interstitial nephritis—Gallstones.

P. W.; aged 71; nativity, Pennsylvania; admitted to U. S. Marine Hospital, Memphis, Tenn., September 2, 1892; died September 2.

History.—Died in the ambulance immediately after reaching hospital.

Necropsy.—Body of an old man, muscular and fairly nourished; *rigor mortis.* Lungs congested. The heart was hypertrophied and its cavities dilated. The mitral and aortic valves were deformed, incompetent, thickened, and covered with vegetations, some of which had undergone calcareous change. The ascending and transverse portions of the aorta were atheromatous and were moderately and uniformly dilated. Kidneys rather small, slightly nodular, and showed fibroid change. The thickened and distended gall bladder contained 500 c. c. of thick, brownish bile and one large, smooth gallstone, oval in shape and weighing 15 grams. There was no obstruction in the cystic ducts and the distention was probably caused by the gallstone acting as a ball valve. Brain not examined; other organs normal.

CASE 18.

Mitral and tricuspid insufficiency.

A. W.; colored; aged 44 years; nativity, Virginia; was admitted to U. S. Marine Hospital, Cincinnati, Ohio, December 22, 1892; died March 20, 1893.

History.—He has had rheumatism for twenty years, at present time affecting the knee joints. There is shortness of breath, cough; the sputum is streaked with blood. Venous pulsation is shown in the neck. The apex beat outside of mammillary line; systolic and diastolic murmurs. He has a rapacious appetite, and the stomach is dilated. The patient became gradually worse, developing great œdema of lower extremities, and suffered from pains in the cardiac and gastric regions.

Necropsy (fourteen hours after death).—On March 21, 1893: Revealed an enormously hypertrophied heart, with incompetency of mitral and tricuspid valves. The left ventricle was very large as regards cavity; the walls were about one inch thick, but showed dilatation. Right ventricle large and dilated; walls very thin; small amounts of serum, above the normal quantity, found in the pleural cavities. The stomach was very much dilated. The liver showed evidence of congestion, possibly passive. Death was evidently due to failure of compensation, which was more speedily brought on by poor nutrition.

CASE 19.

Mitral and tricuspid—Secondary syphilis.

M. C.; age, 36 years; nativity, Ireland; admitted to marine ward, Cleveland City Hospital November 16, 1892; died December 13.

History.—In April, 1891, he was treated at hospital for suppurative inflammation of both middle ears, with perforation. He stated that he had had variola when an infant and an occasional discharge from both ears ever since.

September, 1891.—Complained of cough, a systolic murmur was found, audible at apex of heart and propagated to the left.

September 3, 1892.—Presented himself with a single indurated ulcer of penis (which appeared eight days after exposure), glandular enlargement in both groins, not painful, and a macular eruption covering whole body, except face, hands, and feet. Creamy discharge from both ears. Systolic murmur heard from ensiform cartilage to left axilla. He complained of some dyspnœa.

October 4, 1892.—Readmitted. Ulcer of penis healed. Roseola faint. Several mucous patches in mouth. Dyspnœa quite marked. Heart feeble. Liver extends 5 cm. below ribs in line of nipple. Vomits often. Constipated. It was difficult to keep him in the hospital, and he left again as soon as he felt improved.

November 16, 1892.—Readmitted. Roseola still faintly seen. Ulcers in mouth. Great dyspnœa. Heart feeble, irregular. Blowing murmur pronounced. Second heart sound hardly audible. Apex beat in sixth intercostal space 3.5 cm. to left of nipple. Liver dullness extends in nipple line from sixth intercostal space to 7 cm. below ribs. Œdema of feet. Urine 1020 acid; no albumen; loaded with urates; no casts. Vomits nearly all food.

November 18.—Internal piles, bleeding and painful.

November 21.—Inflammation of lymph vessels for several inches along inner aspect of right leg, just above inner malleolus. Subsided in a week.

November 28.—Dyspnœa increasing. Œdema of feet has become general anasarca.

December 1.—Twenty-four hours' urine, 500. c. c.; 1016, acid; normal color; slight amount of albumen. Orthopnoea. Died December 13. Patient had been a hard drinker for years.

Necropsy (fourteen hours after death.)—Livores and *rigor mortis* present. Pericardial sac contained about 50. c. c. of clear fluid. This sac and the liver were bound closely together. The heart was quite large; a few white patches externally; walls thin; contained fluid blood. Mitral and tricuspid valves were apparently incompetent, but no lesion visible. Thoracic aorta normal. In left pleural cavity there were a few adhesions; in the right, many. Both lungs were of intensely deep-red color, from chronic congestion, and of leathery feeling. About 2,000 c. c. of fluid in abdominal cavity. Mucous surface of stomach congested; intestines normal, pale; liver firmly bound to diaphragm and to omentum. Many small projecting nodules all over surface. Section showed yellowish white masses scattered everywhere. Microscope showed these to be largely fat. Liver weighed about 6,000 grams. Kidneys large, especially the left; congested. Spleen closely attached on all sides; normal size; firm consistency; concretions of lime about hilus and on section.

CASE 20.

Mitral and tricuspid.

G. G.; age, 56 years; nativity, Virginia; admitted to U. S. Marine Hospital, Baltimore, Md., March 24, 1893; died March 31.

Necropsy.—*Rigor mortis* well marked. Body muscular and well rounded. The lungs were intensely congested, resembling first stage of pneumonia. Left lung was adherent to the diaphragm, and there were well-marked pleuritic adhesions on the right side. The cavities of the heart contained ante-mortem clots. Left ventricle hypertrophied. Mitral valves thickened. Tricuspid also thickened, but in less degree. Liver was congested, but otherwise apparently normal.

The kidneys were congested, and the left contained a small spot of calcareous degeneration.

CASE 21.

Aortic, mitral, and tricuspid.

W. B.; age, 42 years; nativity, Nova Scotia; admitted to U. S. Marine Hospital, port of Boston, Mass., April 5, 1893, suffering with heart disease; died April 25.

When admitted he was suffering from dyspnœa and swelling of extremities. Physical examination disclosed murmur at aortic and mitral valves, both during systole and diastole, indicating stenosis with regurgitation. Urine contained no albumen.

Necropsy (seven hours after death).—*Rigor mortis* marked. Post-mortem discolorations on dependent parts of body. Skin on left thigh and leg was split from effusion and pressure. Pleural cavities contained about 1,250 c. c. of fluid. Pleura adherent throughout and thickened. Heart hypertrophied; walls thickened, and its cavities dilated. Aortic valves thickened and incompetent. Arch of aorta contained calcified plates. Mitral valves also thickened, containing vegetations, and incompetent, as was tricuspid. Left lung emphysematous in upper lobe, œdematous in lower; weight, 570 grams. Right lung œdematous; weight, 770 grams. Stomach covered with viscid, sticky mucous, and in a state of chronic catarrhal inflammation. Descending colon formed a loop 6 inches long in pelvis, turned on itself, ascended again, descended, and passed out. Liver reddish and hard; weight, 1,350 grams. Gall bladder distended. Kidneys neither contracted nor granular; still, capsule could not be stripped without tearing organ; line between cortical and medullary substance almost obliterated. Weight of kidneys: Left, 175 grams; right, 140 grams. Bladder distended.

CASE 22.

Aortic, mitral, and tricuspid.

W. O.; age, 40 years; nativity, Australia; admitted to U. S. Marine Hospital at San Francisco, Cal., May 13, 1893; died May 15, at 12:30 a. m.

History.—When admitted he complained of heart disease; said he had been sick six months. He gave a history of slight recurring attacks of rheumatism. On admission he complained of pain over heart, radiating down left arm, dizziness, dyspnœa, and some anasarca; physical examination showed hypertrophy of heart, and aortic and mitral incompetence. On the 14th he felt somewhat better, but succumbed early in the morning of May 15, 1893.

Necropsy (*fifteen hours after death*).—Body of a well-developed and well-nourished man. *Rigor mortis* still present. Very little discoloration. Thorax: Heart was much enlarged and weighed 690 grams. Left auricle dilated. Slight endarteritis and ulceration of the ascending arch of the aorta. Aortic, mitral, and tricuspid valves were found incompetent. Pulmonic valve was competent. Large post-mortem clots in both auricles and ventricles. Lungs: Right weighed 1,070 grams; very œdematous and considerably congested, but without organic disease. Left lung weighed 870 grams, and presented same appearance as the right. Liver, spleen, and kidneys were congested, but were otherwise healthy.

CASE 23.

All valves affected.

E. H.; age 35 years; nativity, Norway; admitted to the U. S. Marine Hospital, Boston, Mass., July 22, 1892; died September 23.

On admission patient complained of great shortness of breath and weakness, growing gradually worse. Had occasional attacks of palpitation of the heart and a sense of oppression in the chest. Had a severe attack of rheumatism six years before admission; had never been entirely well since. On percussion the area of dullness of the heart was found much enlarged. Aortic and mitral murmurs discovered on auscultation.

Necropsy (*three hours after death*).—Post-mortem lividity present; *rigor mortis* marked; general nourishment fair; pupils moderately contracted. All valves of heart incompetent; left ventricle greatly dilated with wall very slightly hypertrophied. Right ventricle greatly distended with black and chicken-fat clots. Wall slightly thickened. Weight, 582 grams. The heart was enormously large, yet the walls of the ventricles were very little hypertrophied. There was very little mitral valve remaining. The pericardial sac contained about a normal amount of fluid. Lungs: Weight right, 737 grams; left, 572 grams. The lungs were not markedly filled with venous blood as might have been expected; in fact, the right lung was almost normal. Marked pleuritic adhesions over almost entire surface of left lung. Slight adhesions at apex of right. Stomach considerably dilated; membrane congested. Liver: Substance looks fatty; venous radicles filled with dark blood; color, dark blue; weight, 1,598 grams. Gall bladder and ducts, normal. Kidneys: Normal in size and appearance; weight left, 150 grams; right, 134 grams. Suprarenal bodies: Weight right, 4 grams; left, 5 grams. Spleen: Weight, 230 grams; substance solid; capsule adherent. Death was undoubtedly due to heart failure from dilatation due to leaky valves.

CASE 24.

All valves affected.

C. J.; age, 29 years; nativity, Germany; admitted to U. S. Marine Hospital, Chicago, Ill., July 14, 1892; died July 30.

History.—Had been ailing for one month before admission with symptoms of heart incompetency. Examination of heart revealed a systolic murmur at apex, and a diastolic murmur over apex and over aortic valves; diastolic murmur heard at pulmonary valves. Treatment consisted in cardiac stimulants, digitalis and cimicifuga. Heart began to fail him suddenly July 28; was at times delirious and again comatose. Died July 30, 1892.

Necropsy.—Height, 247 cm.; circumference at shoulders, 135 cm.; post-mortem lividity; *rigor mortis* absent; general nourishment good; pupils normal. Heart weighed after opening 570 grams; there was dilatation with hypertrophy. Hydraulic test was applied to all the valves and aortic was found incompetent; anterior cusp split and others thickened. Mitral valves were thickened, one cusp being greatly stretched, the other narrow; both valve edges very thin and stretched beyond competence. Pulmonary incompetent. Tricuspid, incompetent, much stretched and edges diseased. Left ventricle dilated, wall thickened; right ventricle dilated, wall hypertrophied. There were firm ante-mortem clots of small size in all the cavities, with extensions through the valvular orifices. The cavities were mainly full of dark fluid blood and soft coagula. Pulmonary artery was distended. Nares normal; larynx and trachea normal; left lung normal; adhesions universal, but slight; superficial cicatrix in apex of left lung; weight of right lung normal; some slight pleural adhesions. There was emphysema of right upper lobe—interlobular. Nothing unusual as to bowels; peritoneum normal; small intestines appeared normal. Liver weighed 1,780 grams; was dark in color and mottled with patches of fatty degeneration; gall bladder and ducts distended with inspissated, very viscid bile. Left kidney weighed 280 grams, congested; right 240 grams, less congested; bladder empty and contracted. Spleen weighed 470 grams, congested. Other organs not examined. Death due primarily to cardiac valvular disease—immediately to failure of heart muscle in diastole. It is not easy to account for the total absence of congestion of lungs while all other organs were chronically congested. There is scarcely less difficulty in arriving at the determining cause of death, in view of the conditions found, unless the ante-mortem clots described may be supposed to have caused greatly increased obstruction at the valves.

PERICARDITIS.

CASE I.

Purulent effusion.

S. W.; colored; aged 29 years; nativity, Ohio; was admitted to the U. S. Marine Hospital, Cincinnati, Ohio, February 16, 1893, and dismissed, after treatment, improved; readmitted April 20, 1893; died April 25.

History.—Of syphilis; suppurating lymph glands of neck and groin; several glands were excised. Readmitted for same disease with the addition of eye trouble; redness, photophobia, etc. One of the glands of the neck was aspirated and injected with 10 per cent solution of iodoform. In one or two days the patient developed fever, pain in right side, jerky and difficult respiration, and great distress; disturbed heart's action and sounds. The right hand and arm became cold, from an embolus probably. There was an apparent difference in the pulses of the two sides.

Necropsy.—Heart weighed 372 grams; pericardial sac was inflamed and contained pus; all cavities of heart, except right auricle, contained ante-mortem fibrin clots. Lungs were about normal. The pleural cavities had old adhesions; both kidneys gave evidence of inflammation.

CASE II.

Effusion.

J. R.; colored; aged 19 years; nativity, Ohio; was admitted to the U. S. Marine Hospital Cincinnati, Ohio, on the 6th day of April, 1893; died April 12.

History.—The patient came in hospital on April 6, and on examination was found to have gonorrhea; subsequently developed phimosis and purulent conjunctivitis.

On the second or third day he complained of severe pain in the chest, and it was thought to be beginning pneumonia with accompanying pleurisy and effusion.

Necropsy (held on April 13, 1893).—*Rigor mortis* well marked; general nourishment good. Heart weighed 400 grams and was congested. The pericardial sac contained a quantity of sero-fibrinous fluid, the fibrin especially abundant. The pericardium itself was much congested. All the cardiac valves seemed to be competent. Lungs: Left, normal; weight, 558 grams. The right showed much congestion and infiltration. It weighed 1 kilogram. The right pleural cavity was obliterated by adhesions. Liver, dark in color; weight, 2½ kilograms. Kidneys: Left, weighed 232 grams; right, weighed 186 grams; slightly congested, but otherwise normal.

Case III.

Sero-purulent effusion.

D. D.; colored; aged 24 years; admitted to the U. S. Marine Hospital, Cincinnati, May 24, 1893; died May 31.

History.—When admitted complained of pain in left side, cough, diarrhea, headache, and was very sick. On examination there was evidence of double pneumonia. He rapidly grew worse and died on May 31, 1893.

Necropsy.—Well marked *rigor mortis* and good general nourishment. Heart weighed 464 grams; sero-purulent fluid in pericardium, about 50 c. c., while the surfaces of the sack were covered with fibrin. All the cavities of the heart were filled with fibrinous clots extending into the vessels. They were of ante-mortem formation. The lungs were thick and hard, and did not collapse on opening the chest; the posterior borders of both were adherent firmly to the pleural wall. The liver, spleen, and pancreas were firm, hardened, and enlarged, the liver showing yellowish spots. These organs were firmly united to the adjacent viscera by many firm adhesions.

PERICARDITIS AND PLEURITIS.

Effusion.

W. W.; negro; age, 27 years; nativity, Tennessee; admitted to the U. S. Marine Hospital, Evansville, Ind., March 18, 1893; died June 5.

History.—He was transferred from Nashville, Tenn., where he had been admitted for acute Bright's disease, followed by complication of pericarditis with effusion. Paracentesis pericardii was performed, giving temporary relief, but fluid reaccumulating, the operation was repeated. His abdomen became distended and breathing became difficult, and interstitial œdema gradually increased. Legs became enormously swollen. Œdema of penis and scrotum next occurred. A trocar was introduced into the scrotum and 5,000 c. c. of fluid were removed, but the œdema rapidly reappeared and continued until death. He died suddenly while attempting to take a drink of water.

Necropsy (six hours after death).—General nourishment very poor; *rigor mortis* occurred four hours after death; pupils partly dilated; bedsores on back; the whole lower surface of the scrotum was abraded. Pleural cavities were half filled with fluid; strong adhesions were found between thoracic walls and lungs. Lungs were in a hyperæmic condition, especially the lower lobes. Pericardial sac: Inflammation involved both layers of the pericardium, which were adherent and coated with a thick layer of lymph. The sac was extremely large, weighing 500 grams; it extended several inches to the right, displacing the inferior lobe of the right lung and having strong adhesions to the lung and diaphragm. On left side the inferior lobe of left lung was displaced upward, by extension of pericardial sac. The adhesions to the lung, diaphragm, and thoracic wall were so strong that they had to be cut. Heart very much enlarged, covered externally with layers of firm lymph. Left ventricle was very much enlarged, and the wall was about 4 cm. thick. Valves were normal. Abdomen distended by a general interstitial œdema; peritoneum contained only a small quantity of serous fluid. Liver enlarged and weighed 1,900 grams; hard, dark in color, and adherent to diaphragm, intestine, and kidney. Gall bladder and ducts distended with bile. Kidneys were enlarged and in a degenerated, soft, condition. Malpighian pyramids showed evidences of an attack of acute nephritis.

ANEURISM OF THE ARCH OF THE AORTA.

CASE 1.

H. W. H.; age, 45 years; nativity, Massachusetts; admitted to U. S. Marine Hospital, port of Boston, Mass., March 1, 1893. At the time complained of pain in the precordial region, dyspnœa, anorexia, and insomnia. The lower extremities were somewhat œdematous. Later suffered from anasarca. Died May 19, 1893, at 5 a. m.

Necropsy (*six hours after death*).—Body that of a large, well-developed, muscular, white male. Pupils dilated; no foreign body about mouth or nose except bloody froth which had exuded from the latter; chest full; adbomen distended; *rigor mortis;* post-mortem discoloration on all dependent parts of body. Death from suffocation caused by rupture of aneurismal sac at arch of aorta, and pulmonary œdema. Brain not examined. Thorax an abdomen: Arch of diaphragm depressed to between fifth and sixth ribs; cavity of thorax contained large quantity of dark blood with many clots. Both pleuræ free from adhesions; cavity contained bloody fluid, 300 c. c. Heart empty; weight of heart, 500 grams. Mitral and tricuspid walls thickened and contents dilated. Valves both incompetent, as were pulmonary and aortic, the latter atheromatous, the interior of artery presenting same condition; at arch of aorta sacculated aneurism which would contain about 150 or 200 c. c. fluid when full; this sac was thinned in various places and had ruptured at one of these, tearing a rent about 1½ cm. in length near point of exit of left carotid and subclavian arteries. Pericardial sac contained 200 c. c. of fluid. Both lungs œdematous. Inferior posterior portion of inferior lobe of both lungs contained areas of pneumonic consolidation; weight of right lung, 510 grams; weight of left lung, 480 grams. Abdomen contained 3,000 c. c. serous fluid; peritoneum and gastrointestinal tract normal. Mucous membrane of stomach congested and covered with sticky mucus. Liver: Characteristic cirrhotic or nutmeg liver; weight, 1,925 grams; gall bladder distended. Kidneys: Substance hard, capsule easily peeled, relations of cortical and medullary substances normal; pelvis of right kidney slightly dilated. Weight of kidneys: Left, 210; right, 157 grams. Urinary bladder full. Spleen: Cirrhotic; weight, 220 grams.

CASE 2.

J. E.; age, 39 years; nativity England; admitted to U S. Marine Hospital at San Francisco, Cal., September 26, 1892; died April 6, 1893.

History.—When admitted he complained of dyspnœa on exertion, considerable cough, but no expectoration. There was no emaciation. He had occasional night sweats. Stridulous inspiration. Fistula of sternum. Physical signs: Inspection, depression over both apices. Expansion of right lung on inspiration very slight; exaggerated expansion of left side. Percussion, dullness over right apex. Auscultation: Dry rales, tubular respiration over upper lobe of right lung. A diagnosis of chronic pneumonic phthisis was made.

On the morning of April 1, patient was seized with severe pain in chest and dyspnœa and became unconscious. Was unconscious for twelve hours. He gradually rallied, but on April 5 he was again seized with paroxysms of pain and dyspnœa. Unconsciousness again occurred, and death supervened at 1:30 a. m., April 6, 1893.

Necropsy.—Thorax: No fluid in either pleural cavity. Right lung: Weight, 980 grams. Many old pleuritic adhesions found. Very little crepitation observed in upper and middle lobe. On section a fibroid phthisical process was observed. Some œdema. Left lung: Weight, 600 grams. No adhesions. Normal crepitation. Lung was healthy, except some œdema and congestion. Heart: Weight, 530 grams; some hypertrophy of left ventricle. Valves competent; ante-mortem clots in left ventricle. Aorta: Large sacculated aneurism of transverse portion of arch; an organized laminated clot occupied a large portion of the sac; some calcification of walls. Liver: Weight, 2,070 grams; appeared normal. Kidneys: Right, weight, 260 grams; left, weight, 240 grams. Somewhat enlarged, but no sign of organic disease present; both were congested. Brain was carefully examined and no pathological condition found, except some passive congestion.

CASE 3.

I. H.; aged 30 years; nativity, Alabama; admitted to U. S. Marine Hospital, Mobile, Ala., August 31, 1892; died September 10.

History.—Patient was admitted eleven days prior to death, with malarial fever and occasional paroxysms of coughing, palpitation of heart, and dyspnœa, chiefly at night. These paroxysms were sometimes accompanied by complete coma, lasting from twenty minutes to an hour or more. There was little or no pain, and he died in one of the lethargic attacks.

Necropsy (*twenty hours after death*).—External appearances: *Rigor mortis* slight; body well nourished. Thorax: Heart and pericardium normal. In the transverse portion of the arch of the aorta a small saccular aneurism was found; the size was that of a hen's egg. It pressed on the lower end of the trachea and both bronchi, the superior vena cava and both vagi. The sac was not ruptured, and contained organized clot. The lungs were normal. Other organs not examined.

ANEURISM OF AORTA.

A. M.; age, 56 years; nativity, Virginia; admitted to the U. S. Marine Hospital Baltimore, Md., October 12, 1892; died November 3.

History.—Patient transferred from Norfolk, Va., with diagnosis of asthma and emphysema. On admission, general nourishment good, complained of much shortness of breath. Dyspnœa specially marked on exertion. On auscultation, a systolic murmur, mitral in situation, was discovered. Percussion gave increased area of heart dullness. Auscultation of lungs disclosed some sibilant and sonorous rales specially marked at apices.

Necropsy (fifteen hours after death).—Rigor mortis not marked. Lungs of a gray slate-color and normal in appearance. Pericardial sac normal in appearance and contained 10 or 12 c. c. of clear serum. Heart: Left ventricle considerably thickened, mitral valve had calcareous excrescenses of almost bony hardness on the borders. Liver normal in appearance and somewhat enlarged, extending below line of ribs. Thoracic cavity contained about 2,000 c. c. of straw-colored serum. At the beginning of the transverse portion of the arch of the aorta and involving the innominate artery, a tumor as large as a man's fist was found extending anteriorly. formed of successive layers of fibrin. The upper portion of the sternum was eroded and at one place was perforated by pressure of the tumor on its posterior surface. In the lower portion of the tumor there was a large rent, at the external opening of which several large blood clots were formed.

ANEURISM OF THE THORACIC AORTA.

CASE 1.

Dilatation of the throat—Pericarditis.

D. M.; aged 40 years; nativity, New York; admitted to U. S. Marine Hospital, Memphis, Tenn., September 10, 1891; died July 2, 1892.

History.—Patient suffered from pain in right side of chest for two months prior to admission. Had occasional violent paroxysms of pain, requiring large doses of morphia to give relief. These paroxysms were accompanied by dyspnœa and sometimes orthopnœa. There was tenderness over right border of sternum and cartilages of fourth and fifth ribs on right side. Immediately over this area, to the left of the right nipple, there was a slight but distinct pulsation. There was dullness limited to this area. There was decided pulsation of an expansile character at the root of the neck above right sterno-clavicular joint and heaving of the lower part of right chest wall synchronous with heart beat. Area of cardiac dullness normal; percussion normal over entire chest except at point above referred to; respiratory sounds normal. There was a double murmur at base of heart. A loud, whirring murmur was heard with first sound and was propagated downward along sternum; was heard on both sides of sternum, but descended lower on right side; very pronounced over area of dullness and pulsation; not heard at apex. Had acute rheumatism fifteen years ago and syphilis ten years ago; slight inguinal adenitis remaining. Had occasional pain in right side of chest during act of swallowing. Treatment consisted of rest in bed and full doses of potass. iodide; aconite and veratrum were occasionally administered as required. Improvement was promptly manifested by diminution of pulsation, ability to lie down without discomfort, and long intervals of freedom from pain. Pain was sometimes entirely absent for several weeks, and when it occurred was of only moderate severity. In the early part of March, 1892, a systolic murmur appeared at the apex, but gave rise to no symptoms; cardiac dullness increased. June 25 he began to cough violently, and pain and dyspnœa returned and continued with but little intermission until death.

Necropsy.—Rigor mortis; body well nourished. The lungs were normal; recent adhesions had obliterated the pericardial sac. The left ventricle was very much dilated, the wall being very thin, especially at apex; the mitral opening was dilated; the aortic valves were slightly thickened. Springing from the aorta, just above its origin, was a large sacculated aneurism, somewhat larger than an orange, with thick and corrugated walls. The sac was adherent to the edge of the right lung and to the pericardium. Its anterior wall was in relation with the underside of the sternum and the adjacent costal cartilages. The sac wall was very dense and, from its corrugation and duplicatures, seemed to have undergone contraction. It contained a large, decolorized, nonadherent clot. The transverse and descending portions of the aorta were roughened on the inner surface by patches of atheroma, but were not dilated. All other organs normal. Death was due to cardiac dilatation and pericarditis; the aneurism had apparently made some progress toward repair.

CASE 2.

J. H. G.; age, 42 years; nativity, Maryland; admitted to the U. S. Marine Hospital, Baltimore, Md., November 15, 1892; died January 2, 1893.

History.—In September, 1890, while lifting a heavy block on board a vessel he felt something give away suddenly. During February, 1891, he noticed a tumor, about the size of a walnut, at the vertebral border of the scapula, which pulsated synchronously with the heart. This tumor had been gradually increasing in size. On admission a large tumor was found in the upper part of left thorax, posterior aspect, displacing the scapula several inches to the left and backward. He complained of severe pain and shortness of breath; was compelled to lie on his abdomen and take full doses of morphine to get rest. Auscultation: Blowing sound synchronous with heart beat and preceding left radial pulse, which was very weak and soft.

Necropsy (eight hours after death).—Rigor mortis well marked. Pericardium contained about 150 c. c. of bloody serum. Heart normal in size and very fatty. Mitral valve normal. Aortic semilunar valves slightly thickened; aorta atheromatous. Right ventricle contained large antemortem clot. Tricuspid valve slightly thickened. Pulmonary artery normal. Lungs: Right lung, inferior lobe very much congested, with considerable amount of pigmentation; otherwise normal. Left lung reduced to about one-sixth its normal size and adherent to the chest wall; atrophy due to pressure from the tumor. Pleural cavity contained a small quantity of serum The thoracic aorta presented a fusiform aneurism, lined with calcareous deposits. At the junction of the descending portion of the arch with the thoracic aorta was found the neck of a saccular aneurism, occupying nearly the whole of the left side of the thoracic cavity and extending partly into the right side, and had eroded the bodies and arches of the four upper dorsal vertebræ. Several ribs were completely disarticulated from the vertebral attachments. Death due to pressure upon the lungs and spinal cord. Other organs not examined.

ANEURISM OF ABDOMINAL AORTA.

Case 1.

Rupture.

R. M. G.; age, 41 years; nativity, Scotland; admitted to U. S. Marine Hospital at San Francisco, Cal., June 2, and died June 3, 1893, at 2:30 o'clock p. m.

History.—On admission he complained of pain in right breast, right arm, and back, and some pain over heart. He also complained of dyspnœa, cardiac palpitation, and a swelling in epigastrium. The pain in back occurred four years ago. It continued for some time, then abated, and he had no recurrence of pain until twelve days previously to admittance. When pain made its appearance he then noticed the swelling in epigastrium. Three days previously to this he fell off a wharf. In order to get out of the water he had to climb a pile. In doing so he became exhausted and rested on the edge of the pile, the edge of the pile being forcibly pressed against his epigastrium. He had had syphilis eighteen years ago. The physical signs were characteristic of aneurism of the upper portion of the abdominal aorta. Albuminuria was present. Ordered absolute rest and a milk diet. On June 3 the patient got up to evacuate his bowels and fell unconscious. When the medical officer arrived the patient's face was blanched, pulse small and rapid, respiration accelerated and shallow. His pulse progressively weakening, he died at 2:30 o'clock p. m.

Necropsy (*twenty-four hours after death*).—Body of a well-developed, well nourished man. *Rigor mortis* well marked. No excessive discoloration. Heart weighed 370 grams. Ante-mortem clots in both ventricles and right auricle and right internal jugular vein. Aortic and mitral valves were incompetent. No endarteritis of arch of aorta. Lungs: Many recent pleuritic adhesions were encountered at base and posterior surface of right lung. A few adhesions found on posterior surface of left lung. No pleuritic effusion. The lower lobes of both lungs were congested and œdematous. This condition was especially marked in left lung. Abdomen: Many peritoneal adhesions were encountered, binding the intestines together. A considerable quantity of coagulated blood was found behind peritoneum and between layers of mesentery. Coagulated blood entirely surrounded right kidney. On removal of intestines a large aneurism, springing from upper part of abdominal aorta, was found. On removing aneurism the eleventh and twelfth dorsal and first, second, and third lumbar vertebræ were found eroded. A portion of the posterior wall of aneurismal sac was absent, the free edge being adherent to the side of the bodies of the vertebræ. The eroded vertebræ communicated with the interior of the sac. The walls of the sac were very thin, and the interior was filled with a large quantity of laminated fibrin. The blood current had tunneled a channel through the center of the clot. The rupture occurred toward the right iliac region. The sac measured 21 cm. in diameter.

Remark.—The fibrinous layers lining the wall of the aneurism were from 5 to 7 cm. in thickness, and were almost of the toughness of muscle. The aneurism, notwithstanding the history, was evidently of long standing.

CASE 2.

Cancer of the stomach.

T. M., aged 53 years; nativity, Ireland; was admitted to the U. S. Marine Hospital, New Orleans, La., August 11, and died December 9, 1892.

History.—Eight months before admission, while in apparent excellent health, the patient noticed a difficulty of swallowing, which increased until it prevented deglutition of anything but liquids. He had been living on fluid diet for four months. No vomiting. He had lost weight, some 25 kilos, and was tormented by diarrhea. Temperature, 38° C.; pulse, 90; small, slightly dicrotic. Complexion sallow, and giving immediately an idea of cancer. A very careful examination of the abdomen gave the impression of a dilated abdominal aorta, probably a beginning aneurism, though the bruit and pulse signs could not certainly be detected. Considerable congestion of the left lung was found. The treatment consisted of sedatives, tonics, alteratives, and an abundance of nourishment. On August 29, 1893, an elastic œsophageal tube was cautiously passed to the stomach, with so happy effect that the patient was thenceforth able to eat and drink at his pleasure. The symptoms of pyloric cancer becoming obvious, a pill of opium and arsenic was given, greatly conducing to his comfort. The patient failed gradually, dying of asthenia.

Necropsy (*eighteen hours after death*).—Body that of a chronic invalid, white, middle-aged man, much emaciated. Post-mortem lividity and *rigor mortis* well marked. Heart, hypertrophied, weight 299 grams, somewhat fatty, pushed to right of sternum by fluid in left pleural cavity. Pericardial sac almost dry. Both ventricles dilated, walls thinned, thoracic and abdominal aorta dilated and thinned, the walls of the latter pouching, at intervals, throughout. Lungs, left adhering closely to diaphragm; weight, 399 grams; left pleural cavity contained 2,000 cc. of thin sanious pus, evidently from a number of abscesses in inferior lobe of same lung. Right lung, weight, 569 grams; normal. Abdominal contents matted together with old adhesions. Stomach, pyloric end the seat of a large cancerous growth, the adjacent portions of the liver and spleen showing some points of ulceration. Liver, reddish brown; weight, 1,163 grams. Kidneys, waxy; weight, left, 127 grams; right, 162 grams. Spleen, weight, 200 grams.

ANEURISM OF THE OBTURATOR ARTERY.

O. B.; aged 37 years; nativity, North Carolina. Admitted to the marine ward, German Hospital, Philadelphia, Pa., September 21, and died October 21, 1892.

Patient unable to walk. A large tense pyriform swelling was noticed in the left thigh. It was not especially painful on pressure. Patient gave a history of the swelling having crept up the thigh from the knee. A comparative measurement was made between the two limbs on admission, and the sound one measured 46.5 cm., and the affected measured 63.5 cm. On auscultation a very distinct bruit was discernible over the line of the femoral artery. Aneurism was hardly thought of, since the swelling was as much posterior as it was anterior, and there was no diminution in the pulse of the affected limb. The temperature of the part affected was slightly higher than the sound limb. The temperature of the patient reached several times over 39°. Later no improvement was noted, the swelling seemed to increase and pointed over Scarpa's triangle. On October 16 a severe diarrhea set in, but it was readily stopped. It was decided to operate, and so on October 18 the patient was etherized and the leg cleaned and a very small trocar was thrust into the tumor. A small stream of blood gushed out, and it was inferred that the tumor must certainly be an aneurism of the femoral artery. It was then decided to tie the external iliac artery, which was done above Poupart's ligament. After tying the artery it was noticed that the bruit still continued over the tumor. A drainage tube was inserted and the edges sutured and dressed and the patient put to bed.

Previous to the operation the treatment had been morphia, digitalis, and whisky, and after the operation the same line of treatment was carried out, only more active stimulation was used, and to this end champagne, atropine, and strychnine were given, and heat was applied to the affected limb, to which also cotton wool had been applied. A fracture box and suspension apparatus were used. Hypodermoclysis was also resorted to. On October 21 the patient died of asthenia and cerebral anæmia, being unconscious at the end.

Necropsy.—The integument of the thigh was dissected up over the line of the femoral artery and also the muscles, and it was found that the artery and its branches were throughout their course intact. Behind the anterior muscles a huge clot was found, and after careful dissection it was found that the aneurism (for such it was) was of the obturator artery. The clot was about 6,000 c. c. in extent and was laminated on the periphery. Abdomen opened in order to trace out the obturator artery. The head and neck and upper fifth of the femur were found to be considerably necrosed superficially, the periosteum destroyed, and the entire muscular planes were very much dissected up by the clot. No pus was found.

HEMORRHAGE FROM THE LUNGS AND STOMACH.

J. M.; aged 37 years; nativity, Sweden; was admitted to Marine Hospital, Stapleton, Staten Island, N. Y., November 14, died December 4, 1892.

History.—Patient had suffered from dyspnœa for three months; said that he had had previous attacks of asthma, but none of so long duration as the present. There was a dry, harsh cough, with scanty white expectoration. Deglutition of solid food was difficult, because of dyspnœa. Sleep was impossible in the recumbent position. Physical examination showed a fairly nourished body. Lungs: Expansion excellent; bronchial fremitus; slightly increased pulmonary resonance; sonorous and sibilant rales throughout the chest. Heart beating rapidly, but no murmur was discoverable. Neither liver nor spleen showed any enlargement. Patient was placed on a liquid diet, and under treatment so far improved as to sleep in the recumbent posture. Rales continued, and at times blood was expectorated in small quantities. On the morning of December 4, while standing over the sink in the act of bathing, he made an attempt as if to clear his throat and a gush of blood from the mouth and nostrils followed. He sank to the floor and expired within a few minutes. Judging from appearances, about 500 cc. of blood were lost.

Necropsy (*five hours after death*).—Pericardial fluid normal. Posterior segment of the aortic valve was thin and had seven pin-hole perforations close to its border. Heart otherwise normal. On removal of left lung a quantity of blood escaped from the mouth. Upper lobe normal. Lower lobe contained several emphysematous lobules, and section showed it to be filled with blood. The hemorrhage occurred near the center of this lobe. Right lung congested at the base. In the trachea and bronchi was an eruption resembling urticaria. Stomach distended with clotted blood. The walls were thickened, congested, and covered with bloody mucus. Rugæ were like whipcord to the touch, and did not disappear on stretching. Liver apparently normal. Spleen pale and reduced in size. Kidneys normal.

LOBAR PNEUMONIA.

CASE 1.

C. L.; aged 30 years; nativity, Finland; admitted to the marine ward of German Hospital, Philadelphia, Pa., May 1; died May 5, 1893.

History.—Patient complained of having been sick two days. On admission temperature was 40°, pulse 120, and respiration 28. Face was dusky red. He complained of dyspnœa and pain, which was referred to the right hypochondrium. Inspection revealed immobility on the right side. Auscultation revealed friction sounds; also tubular breathing. There was dullness on percussion and absence of fremitus. Rusty-colored sputa was expectorated. On May 2, 500 cc. of blood were drawn from the medio-basilic vein in the left arm. A cotton jacket was applied, stimulants were given—digitalis, whisky, ammon. carb., strychnia; also inhalations of oxygen, but it was evident that treatment was useless, as the whole right lung was consolidated and the heart very weak. Patient developed collateral œdema and died.

Necropsy.—Pneumonic consolidation, of the whole right lung; cheesy in the lower half, red in the upper. There was also a plastic pleurisy of the right lung and an œdematous condition of the left lung. The heart was filled with fibrinous clots, the right side engorged, and the walls very hyperæmic. All other organs were normal.

CASE 2.

P. C.; aged 27 years; nativity, New York; admitted to Marine Hospital, Stapleton, Staten Island, N. Y., October 10; died October 17, 1892.

History.—On admission patient stated that he had been sick one week, and complained of cough, with yellowish expectoration; pain over left lung, aggravated on coughing; dyspnœa and palpitation of the heart. Pulse 120, respiration 30, temperature 39.8° C., chest barrel-shaped, and on inspiration the framework was seen to move upward. Increased vocal fremitus over left lung, diminished over right. Dullness over left lung and increased pulmonary resonance over right. Crepitant rales and bronchial respiration were heard over left side, while over the right the respiratory murmur was feeble. There were also broncho-vesicular respiration and sibilant rales. On the day following admission the sputa became rusty. Patient grew gradually worse; dyspnœa increased; heart became more feeble, and finally failed to respond to stimulation.

Necropsy (ten hours after death).—Body emaciated. *Rigor mortis* marked. Pericardial fluid increased. Left ventricle contained a small ante-mortem clot, which extended 7 cm. into the aorta. Heart valves normal. Surfaces of left pleura agglutinated. Left lung completely solidified, and in a state of gray hepatization. Right somewhat emphysematous, increased in size, congested, and contained patches of red hepatization. Liver enlarged, congested, and evidently in a state of slight fatty degeneration. Spleen and kidneys normal. Other organs not examined.

CASE 3.

J. K.; aged 38 years; nativity New York; admitted to U. S. Marine Hospital, Chicago, Ill., April 18; died April 27, 1893.

History.—This patient was admitted to the hospital, suffering from rheumatism and influenza. Soon afterwards he developed fever, cough, and pain in the right side; examination showed consolidation of the lower lobe of the right lung. He became delirious on the seventh day after admission, and remained so until his death, which occurred two days later.

Necropsy.—The body nourishment was poor, and the *rigor mortis* well marked. Circulatory organs: The heart, after opening, weighed 270 grams; there was no pericardial fluid. The left ventricular wall was comparatively thin, but the valves were competent. The left lung weighed 245 grams, and presented no abnormality, while the right lung weighed 790 grams, and the entire lower lobe was involved in pneumonic consolidation, portions of which were in the stage of red, and others in the stage of gray hepatization. Other organs: The liver was perfectly normal in appearance, and weighed 1,740 grams; the gall bladder was full of bile; the kidneys were normal in appearance, the right weighing 165 grams, and the left 140 grams. Nothing abnormal could be detected in the spleen, which weighed 110 grams.

CASE 4.

L. H.; aged 22 years; nativity, United States; admitted to the Marine Hospital, Memphis, Tenn., December 29, 1892; died January 4, 1893.

History.—The patient had been seized with symptoms of pneumonia a little more than a week previous to his admission to the hospital. There was evidence of consolidation of all the lower portion of the left lung, and symptoms of invasion of the right lung were appearing. The bowels were loose. The temperature at first went down, then rose again, then went down to normal, the patient being very weak and slightly jaundiced. Before death the temperature rose again to 39°.

Necropsy (*five hours after death*).—The body was greatly emaciated. The left lung was pale and œdematous, and was adherent to the parietal pleura from the third rib downward in front and to the pericardium. The adhesions were very firm. The weight of the lung was 830 grams. It was but slightly crepitant, yet did not sink in water. It was consolidated, excepting the apex. The right lung was adherent over a considerable space between the third and sixth ribs. It was pale and œdematous, and collapsed when the chest was opened. Its weight was 305 grams. The weights of other organs were as follows: Heart, 430 grams; liver, 2,030 grams; spleen, 272 grams; left kidney, 160 grams; right kidney, 170 grams.

CASE 5.

J. E.; colored; aged 39 years; nativity, Indiana; admitted to U. S. Marine Hospital, Evansville, Ind., February 6; died February 9, 1893.

History.—On the 2d instant, after exposure to wet and cold, he was taken with a severe chill, pain in right side of chest, and cough. He grew worse daily, and had an exhaustive diarrhea and a very irritable stomach. Temperature on admission, 40° C.; pulse, 110, and very weak; respiration, 40; voice, husky. Physical examination gave dullness on percussion, increased vocal fremitus, and bronchial breathing over the greater portion of the right lung; all signs being more intense at the apex. There was scanty rusty sputum, considerable sweating, and marked depression, and stimulants were required from the moment of admission to the hospital.

Necropsy (*fourteen hours after death*).—*Rigor mortis* marked; general nourishment good. Heart and pericardial sac normal. Right lung in stage of red hepatization, except at the apex, where it was merged into the gray. There were recent pleuritic adhesions about the upper lobe. The left lung was slightly congested, but crepitant; all other viscera normal.

CASE 6.

J. C.; aged 39 years; nativity, Scotland; was admitted to the Marine Hospital, Stapleton, Staten Island, N. Y., August 1; died August 6, 1892.

History.—Gave the usual history of pneumonia; had been sick five days; sickness ushered in by chill, followed by pain in right side, aggravated by cough; physical examination showed pneumonia at base of right lung; the disease was severe from the first, gradually involving the whole lung. Delirium, nausea, vomiting, tympanitis all set in after the third day.

Necropsy (*twenty-four hours after death*).—Body well nourished; hypostatic congestion extreme; well-marked *rigor mortis;* pericardial sac contained the usual amount of fluid; heart muscles flabby; ventricular walls thinned; valves normal. Both lungs adherent to chest walls; the left was shrunken in size and of an intensely dark-red hyperaemic hue. There were about 100 c. c. of fluid in the right plueral cavity, and quite a large patch of pleural exudate along outer border and base of right lung. Upon section the parenchyma was found to be in a complete state of gray hepatization. Intestinal tract filled with gas. Peritoneum appeared healthy. Other organs offered nothing of interest.

CASE 7.

J. H.; aged 62 years; nativity, Germany; was admitted to the U. S. Marine Hospital, New Orleans, La., January 7; died January 18, 1893.

History.—Up to four days previously patient had had uninterrupted good health. He was at that time seized with a stitch in left side, aggravated by coughing and an increasing sense of suffocation. Expectoration viscid and extremely tenacious. No appetite, headache, bowels sluggish, tongue dry. Patient states he has had no fever or chill. This statement is interesting as illustrating the unreliability of a patient's sensations to discern variations in his own temperature, as, at the time of making the statement, his temperature was 40.6° C. (105 F.); pulse 120, respiration 35, superficial. Heart sounds indicated considerable valvular disturbance, and auscultation also detected congestion in lower lobes of both lungs. Prompt treatment by cotton jacket, stimulating expectorants, stimulants, nourishment, and quinine was instituted. Notable improvement followed for a time, the temperature falling to 36.2° C., with some slowing of the heart and pulse. The relief was only temporary, as the symptoms grew worse, and the patient died of apnœa and exhaustion.

Necropsy (*twenty-one hours after death*).—Body that of a muscular, fairly-nourished, elderly white man. Post-mortem lividity and *rigor mortis* present. Heart covered with fat; weight, 322 grams; mitral and tricuspid valves markedly incompetent; left ventricle contracted, walls thinned; right ventricle also contracted, but walls notably thickened. Calcareous deposits throughout aorta. Lungs, left: Weight, 680 grams; lower lobe congested; upper lobe in state of gray hepatization and infiltrated with pus. Right: Weight, 1,170 grams; adherent to chest wall and surrounding parts, difficult of removal. Lung throughout honeycombed with abscesses; upper lobe congested; middle and lower lobe in gray hepatization. Both pleural cavities obliterated. Abdominal viscera loaded with fat. Liver soft, friable, fatty; weight, 1,790 grams. Gall bladder and ducts empty. Kidneys softened, infiltrated with fat, capsules detached easily; weight, left, 185 grams; right, 185 grams. Spleen fatty, soft; weight, 255 grams.

CASE 8.

C. P.; age, 37 years; nativity, New York; admitted to Marine Hospital, Stapleton, Staten Island, N. Y., May 1; died May 4, 1893.

History.—Patient states that he caught a severe cold about three weeks ago. Cough followed, which was moist in character. He was taken Sunday, April 23, with a chill, followed by fever; had another chill Wednesday, 26th, also followed by fever. Sputa of a yellow, sometimes purple, color; also very thick. Pain in chest, especially over heart; also pain in abdomen. Can not sleep on account of the pain. Anorexia; dyspnœa on exertion; diarrhea; urine of a dark-red color. Specific, gonorrheal, and alcoholic history. Also has a swelling in his right wrist; hand and wrist very painful. Can not raise hand without assistance. Pain extends as far up as elbow.

Physical examination.—Body poorly nourished. Chest expansion poor; on palpation bronchial and vocal fremitus greatly exaggerated on right side; on percussion only slight variation from normal. Left side decrease of resonance; with exception of apex the left lung is filled with subcrepitant rales. On auscultation pleuritic friction sounds in right mammary region. A few large rales in bronchial tubes. Patient also has an enlarged, inflamed, and painful wrist joint, which is the site of an old Colles's fracture, but owing to the weak condition of patient was not further examined for a new fracture; wrist was put up for the time being in a palmar splint. The morning of May 2, a hot poultice applied to chest over seat of pain; and an oil-silk jacket put on. Temperature of patient evening of 1st, 38° C.; morning of 2d, 39.2° C. Patient went into state of collapse, owing to pain; stimulants administered. Evening of 2d, patient slightly improved. Morning of 3d, patient quite delirious; evening, patient quieter, but quite weak, and almost moribund. Patient continued to grow weaker, and died at 2:20 a. m., May 4, 1893.

Necropsy (*seven hours after death*).—Body poorly nourished. Post-mortem lividity not well marked. *Rigor mortis* not marked. Pupils normal. Pleural cavity normal. Chest when opened showed the lungs not collapsed. Left lung: Apex enphysematous; lower two-thirds and posterior portion entirely consolidated; gray hepatization. Right lung: Lower two-thirds of upper lobe in state of gray hepatization. Kidney: Capsule easily separated; also congested. Suprarenal capsules indurated. Slight effusion into peritoneal cavity. Heart: Left ventricle filled with dark post-mortem semifluid clot. Pericardial sac contained 50 c. c. of serous effusion.

CASE 9.

A. S.; aged 25 years; nativity, West Indies; admitted to Marine Hospital, Stapleton, Staten Island, N. Y., February 24; died March 4, 1893.

History.—On admission patient stated that three days before he had had a severe chill, followed by fever, pain in left side of chest, and cough with expectoration at times streaked with blood. There were dyspnœa and cardiac palpitation; temperature, 40.4° C.; respiration, 34; pulse, 120; body was well nourished; tongue heavily coated. Over the lower lobe of left lung were increased vocal fremitus, dullness on percussion, bronchial breathing, and increased vocal resonance. Over the right lower lobe were impaired resonance and crepitant rales. Heart apparently normal. Liver and spleen enlarged. Pain in the left side was at times very severe. As the case progressed dyspnœa increased, and on the evening of March 1 the respiration was 68. The pulse was good up to the very last, not exceeding 120. On the morning of March 4 there was mild delirium. A little latter signs of œdema of the lungs appeared, and patient died at 11:20 a. m.

Necropsy (*twenty-seven hours after death*).—*Rigor mortis* marked; the pericardial fluid was slightly increased; heart was apparently larger than normal; both ventricles contained ante and post mortem clots; the valves were competent; left lung adherent to chest wall from base to apex and completely solidified. At the apex were several tuberculous nodules. The upper lobe was in a state of red hepatization; the lower contained many gray spots. Right pleural cavity was nearly obliterated by adhesions. Upper lobe of right lung was carnified; the lower lobes were œdematous. Liver enlarged, pale, and fatty. The right lobe was greatly thickened antero-posteriorly. Spleen was pale and increased to twice its normal size. Both kidneys were pale, but otherwise normal.

CASE 10.

Heart failure.

J. B.; age, 50 years; nativity, Ireland; admitted to U. S. Marine Hospital at San Francisco, Cal., April 13, 1885, and died June 7, 1893, at 11:15 o'clock a. m.

History.—On admission patient was suffering from osteo-arthritis and chronic ophthalmia. His condition was slowly progressive until April 26, 1893, when he rapidly became worse. At above date his legs became œdematous. This condition was ameliorated by treatment, but on May 26 an acute laryngitis supervened. Patient coughed considerably and suffered from dyspnœa. On June 4, 1893, patient became jaundiced. Urine stained with bile. He now began to decline rapidly, and became weak both in body and mind. Although very weak he persisted in trying to get out of bed, and in one of these attempts he fell back on the bed and expired at 11:15 o'clock a. m.

Necropsy.—Body emaciated, articulations distorted, *rigor mortis* marked, considerable discoloration posteriorly, skin of icteroid hue. Thorax: Many recent pleuritic adhesions on both sides of chest; some old adhesions also; small quantity of fluid in both pleural cavities. Right lung weighed 1,500 grams; lung crepitated, except over lower lobe, where no crepitation could be elicited. On section it presented appearance of a lobar pneumonia in the stage of red hepatization; some congestion and œdema of upper lobes. Left lung weighed 1,250 grams; much congestion and œdema, especially of lower lobe. Larynx was inflamed; some superficial ulceration; considerable muco-pus present. Heart was normal. Liver weighed 1,610 grams; it was cirrhotic; surface nodulated and irregularly contracted; tough and leathery in section; gall bladder was slightly distended; walls were thickened; bile was very viscid. Spleen weighed 670 grams; much congested. Kidneys normal.

CASE 11.

J. E.; age, 22 years; nativity, Norway; admitted to U. S. Marine Hospital, port of Boston, Mass., February 21, at 4 p. m.; died February 22, 1893.

History.—Was sent from vessel in an open boat during a snowstorm and brought to hospital in ambulance shortly after. Respiration rapid and difficult; pulse weak, 120 per minute; temperature 39⅗ C.; extremities cold, face cyanosed. Physical examination revealed croupus pneumonia with consolidation (gray hepatization) of the left lung. Collateral congestion right lung. Died twenty-one hours after admission.

Necropsy (*twenty hours after death*).—Body that of white male, large, strongly built, muscular. Post-mortem lividity and ecchymoses of upper chest and neck. Face and lips cyanosed. *Rigor mortis* marked. Cicatrix in right inguinal region (groin) about 8 cm. long and 6 cm. wide. Larynx and trachea congested, but very little mucus. Bronchi inflamed, pleuræ acutely inflamed and adherent. Left lung, with exception of small area in lower lobe, completely in stage of gray hepatization; weight, 2,050 grams. Right lung weighed 720 grams, congested and œdematous. Fibrin of the consistence of jelly covered lung. Liver congested, weight, 2,430 grams. Spleen hypertrophied; weight, 435 grams. Heart large; valves normal, except tricuspid, which was inflamed. Ante-mortem clot in both sides; weight of heart after opening, 420 grams. Left kidney weighed 210 grams. Right kidney weighed 225 grams. Typical pneumonic kidney. Other organs normal.

CASE 12.

Bilateral.

J. V. D.; age, 24 years; nativity, Illinois; admitted to marine ward of St. Vincent's Hospital, Portland, Oreg., March 15; died March 19, 1893.

History.—Patient had chills and fever two days before admission; came to hospital at 6 p. m. and the following was noted: Pulse, full and bounding; countenance, flushed and anxious; temperature, 41° C.; skin dry. Was put to bed and given quinia sulph. 0.6 gram, and antipyrine, 0.3 gram.

March 16, a. m.—Resting easier; temperature 40° C.; pulse 98, full; skin moist; slight cough with pain in the side; tongue coated and bowels constipated. Physical examination of the chest shows only harsh bronchial respirations; percussion note clear and respiration normal. Quinia sulph., 0.66 gram, four times daily; also, ol. ricini 25 c. c. and glycerin 5 c. c., to be taken at once, and tinct. iodi. applied over painful side of chest. Diet, milk, beef tea, and broths.

March 17, a. m.—Pain in side not so acute; slight cough; thin frothy mucus and several ounces of blood were discharged; respirations 26 per minute; pulse full, strong in tension, 130 per minute; temperature 39.4° C.; countenance somewhat flushed and skin covered with a warm perspiration. Free movement of the bowels this morning. Medicine continued, with whisky 30 c. c. every four hours. A large mustard poultice was put on the chest and removed when the skin was reddened.

March 18, a. m.—Early this morning, while delirious and during temporary absence of the nurse, patient arose from his bed and jumped out of the window into the yard. He was immediately discovered and returned to bed. He received no injuries save a slight contusion of the back. Expectoration again hemorrhagic and several ounces discharged at one time. Skin relaxed, dusky, and cool. Pulse rapid and irregular in rhythm; temperature, 40.4° C. Palpation, resistance is increased; percussion note flat, with something of the tympanitic quality. Auscultation reveals small crepitant rales over right thorax, below and external to the nipple. Ordered cold sponging and quinia sulph. 1.33 grams every four hours. Also whisky 30 c. c., tinct. digitalis 0.4 cc., and carbon ammon. 0.33 gram, every two hours. Diet to include eggnog.

March 18, p. m.—No change in patient's condition; had free movement of bowels at 2 o'clock.

March 19, a. m.—Patient is excitable, with more or less delirium, and did not sleep last night. Crepitant rales over apices of both lungs, with dullness and consolidation over lower right lobe. Pulse irregular in rhythm, 132 per minute; respiration, 54 per minute. Urine retained and withdrawn by catheter. Chloral hydrate, 1 gram, administered last night and repeated in three hours, did not quiet delirium nor produce sleep. Nails blue and heart action feeble. Continued carbon ammon. 0.66 gram every three hours, also whisky 45 c. c., and tinct. digitalis 0.66 c. c. every two hours, and cold wet pack.

March 19, 2 p. m.—Respiratory acts are more frequent and shallow, reaching 60 per minute. Countenance flushed and dusky. The working of facial muscles and those of the alæ of the nose are expressive of the so-called facies pneumonica. Pulse small, soft, and weak.

March 19, 8 p. m.—Patient became very delirious and it required the combined strength of three persons to retain him in bed. As delirium subsided patient fell back on pillow greatly exhausted. Dyspnœa increased, face cyanosed, breathing quick and shallow with great debility, followed by profound coma and death.

Necropsy (*eighteen hours after death*).—External appearances: Height, 5 feet 9 inches. Circumference at shoulders, 48 inches. Post-mortem lividity marked over back, sides, and hips. *Rigor mortis* marked. General nourishment good. Pupils dilated. Heart: Weight after opening, 380 grams; normal; contained but little blood and a post-mortem clot; pericardical sac and fluid normal. Lungs: Left, weight, 720 grams; the tissue was hyperæmic and the inner margin of the lower lobe was solid and entirely without air; pleural cavity normal. Right lung, weight, 1,400 grams; tissue firm and also friable, most marked in lower and middle lobes, and devoid of air, except at upper and inner margin of the upper lobe; surface of a section had a red and granular appearance, and a tough, grayish-red fluid could be scraped from it; pleura slightly adherent laterally. Liver: Weight 2,400 grams; tissue and color normal. Gall bladder, normal. Kidneys: weight each, 135 grams; normal. Spleen normal.

CASE 13.

Fibroid phthisis.

J. P.; aged 50 years; nativity, Nova Scotia; admitted to the U. S. Marine Hospital, Boston, Mass., September 29; died November 5, 1892.

Patient was admitted for lobar pneumonia. Pain in right side, rusty-colored sputum, bronchial breathing, and dullness on percussion over whole of anterior portion of right lung. Patient did not improve and soon a cavity was discovered in upper lobe.

Necropsy (*fourteen and one-half hours after death*).—Post-mortem lividity slight. *Rigor mortis* marked. General nourishment poor. Pericardial sac normal; contained about 60 c. c. clear serum. All valves of heart competent. Walls and cavities of ventricles normal; weight, 263 grams. Left lung normal in appearance and feel; a few pleuritic adhesions at the apex; weight, 670 grams. Cavity size of a man's fist in the upper lobe of the right lung; one, size of an orange, in the middle lobe; the remaining posterior portion of upper lobes hard and fibrous. Lower lobe nearly normal, slightly congested. Whole lung bound by very firm pleuritic adhesion over entire surface; weight, 1,052 grams. Liver normal; weight, 1,592 grams. Kidneys normal; weight, right, 152 grams; left, 156 grams. Spleen rather soft and lighter in color than normal; weight, 170 grams. Death due to fibroid phthisis following pneumonia.

CASE 14.

Alcoholism.

J. L.; aged 36 years; nativity, New York; admitted to U. S. Marine Hospital, Chicago, Ill., March 10; died March 17, 1893.

History.—This man had been treated at this station some months before for ulcers of the penis. When admitted to hospital on March 10 he was suffering from acute alcoholism. Soon after admission he developed right lobar pneumonia. Notwithstanding treatment he quickly sank, and on the seventh day after admission died.

Necropsy.—The *rigor mortis* and post-mortem lividity were marked. The general nourishment was good. Circulatory organs: The pericardial sac was thickened;

the heart was of normal size, while the cavities were filled with black, semisolid clots; there was no valvular incompetency. Lungs: The left lung weighed 680 grams; the right lung weighed 1,880 grams, and the lower lobe was the seat of pneumonic consolidation. The liver weighed 2,810 grams, and was of normal appearance. Other viscera normal.

CASE 15.

F. V.; aged 26 years; nativity, Spain; admitted to the marine, ward St. Mary's Infirmary, Galveston, Tex., December 8; died December 13, 1892.

History.—The patient when admitted to the hospital was suffering from a severe attack of bronchitis invading the small tubes, together with pleurisy on both sides of the chest. He had been sick four or five days. The second night after his admission he escaped from the nurse and left the hospital while delirous, and was not found and brought back until ten hours afterwards. He showed remarkable vitality after this exposure, but died three days later.

Necropsy (*four hours after death*).—Post-mortem lividity existed about the hands. *Rigor mortis* was strongly marked The general nourishment was good. The heart was hypertrophied, particularly the left ventricle. There was little blood in the heart, the cavities being in a state of partial contraction. All the valves were competent. There was evidence of inflammation in the visceral pericardium; the membrane was injected and was marked with curious lines of recent exudation along the course of some of the cardiac vessels. The left lung was partially consolidated in the lower and external portions, the area of consolidation not being clearly defined. Considerable recent fibrinous exudate was attached to the pleural surface of this lung. The surface of the right lung was largely covered with a thick, yellow, fibrinous exudate of recent formation. The lung was nearly completely solidified, with the exception of a small area at the apex. It, nevertheless, floated in water, and the degree of solidification varied, though lobules were not definable. Those portions of the lungs which were not solidified showed congestion. The liver was normal. The kidneys were normal in appearance. Other organs not examined.

CASE 16.

W. S.; aged 25 years; nativity, United States; admitted to the Marine Hospital, Memphis, Tenn., February 9; died February 11, 1893.

History.—The patient had fallen into the water four days previous to admission and gave a history of sickness dating from that time. He was suffering from pains in the chest. Respiration was hurried, the pulse rapid and weak. There were pleuritic friction murmurs on both sides of the chest, bronchitis, and slight dullness at the lower portion of the right lung. The patient was delirious to the time of death.

Necropsy (*period after death not noted*).—All the organs except the lungs were normal. Both lungs were adherent to the chest walls, the adhesions being of recent formation. Both lungs showed typical lesions of catarrhal pneumonia. Numerous areas of consolidation were mingled with areas of aerated tissue. So many lobules of the left upper lobe were affected as to resemble lobar pneumonia. The bronchial tubes were full of pus, and the minutest bronchi could be detected by drops of pus oozing from them on pressure.

CASE 17.

Tuberculosis.

R. K.; aged 21 years; nativity, Mississippi; was admitted to the U. S. Marine Hospital, New Orleans, La., February 27, and died February 28, 1893.

History.—The patient had been under treatment at this hospital several times shortly before his last admission for tubercle of the lung, malarial fever, and rheumatism. While under treatment for the last named, pneumonia suddenly developed, and although the temperature showed a moderate increase only (to 38° C.), the pulse and respiration were largely augmented to 144 and 40 per minute, respectively.

Auscultation revealed serious involvement of the entire lung substance. The patient failed rapidly and died in forty-eight hours.

Necropsy (thirteen hours after death).—Body that of a fairly nourished, muscular, intensely black, young, negro man. *Rigor mortis* marked. Heart: Weight, 295 grams; normal, except some calcareous deposit on tricuspid valve. The pericardial sac gave evidence of not very distant pericarditis. The lumen of the aorta was unusually small. Lungs throughout congested and studded with miliary tubercles; right lung honeycombed with pus-laden cavities; weight, left, 445 grams; right, 670 grams. Left pleural cavity normal; right, almost obliterated by old and very firm adhesions of lung to chest wall, which were bathed in fetid pus. Liver swollen; capsule detached, amyloid degeneration, surface smooth and glistening; weight, 2,520 grams. Kidneys: Weight, each, 215 grams; capsules loose, friable, and advanced in amyloid degeneration. Spleen pale externally, deeply congested and firm on section internally; weight, 420 grams.

CASE 18.

Pericarditis.

E. M.; aged 43 years; nativity, New York; was admitted to the Marine Hospital, Stapleton, Staten Island, N. Y., December 1; died December 2, 1892.

History.—Patient had a chill ten days before admission, followed by fever, and a cough, which caused severe pain over lower portion of right lung. For five days the sputa had contained blood in variable quantities. Great prostration. Headache. Anorexia. Bowels open. Examination showed the pulse 120, respiration 36, temperature 38.8° C. Body poorly nourished. Slight lividity of the prolabia. Tongue coated. Respiration hurried and labored. Increased vocal fremitus, dullness on percussion, bronchial breathing, and friction sounds over lower lobe of right lung. At 9:30 p. m., December 2, patient asked for a drink of milk, which was given him. A moment later the nurse, hearing a peculiar noise, hastened to the bed and found that patient had vomited the milk, together with a considerable quantity of mucus. He was dead before the nurse reached him.

Necropsy (sixteen hours after death).—*Rigor mortis* marked. On opening the thorax a circumscribed collection of pus 4 cm. in diameter was found in the anterior mediastinum. The visceral and parietal layers of the pericardium were each 2 mm. in thickness, and studded with prolongations of fibrous tissue, giving them a bearded appearance. The pericardial fluid was increased in quantity and purulent. Pulmonary vein contained ante and postmortem clots 12 cm. in length. Segments of the aortic valve were atheromatous and adherent to the walls of aorta. The mitral valve had several vegetations. Tricuspid valve was much thickened. Pleural adhesions over lower lobe of right lung. Parts of the pleura were dry and glistening, while in spots there were thick fibrinous exudates. Circumscribed pleuritis about 5 cm. in diameter at base of left lung. Right lung: Upper lobe congested and œdematous, lower lobe in a state of gray hepatization. Left lung congested and œdematous throughout. Liver was cirrhotic, tough under the knife, somewhat enlarged, and pale. Gall bladder distended. Spleen pale. Kidneys apparently normal.

GANGRENE OF THE LUNG.

D. V.; aged 35 years; nationality, Scotch; admitted to marine ward of German Hospital in Philadelphia, Pa., December 31, 1892; died January 13, 1893.

Family history good. Complained of having been sick throughout the last trip. On admission attention was drawn to the stomach as the seat of trouble on account of the incessant vomiting, which produced great weakness and emaciation from the first. He was given nutritious enemas and concentrated nourishment by the mouth. Cardiac stimulants and champagne were administered, also small doses of calomel and opium. Patient was slightly jaundiced and complained of great pain just above the liver, and on examination a small dull area was noted. Material vomited was frothy and contained blood. Patient died, and a post-mortem examination being made it was found that the lower lobe of the right lung was gangrenous and that a large abscess cavity communicating with the pleural cavity had formed. The pleural cavity was filled with blood. The left lung was œdematous. The heart was normal, also the stomach, kidneys, and liver. The brain was anæmic.

ACUTE PLEURISY.

CASE 1.

Bilateral.

W. G.; aged 35; nativity, W. S.; admitted to the marine ward of the German Hospital, Philadelphia, Pa., March 28; died March 31, 1893.

Patient gave history of having been sick for three days, the first symptom being great pain in the chest. On admission patient complained of great pain in the chest, difficult breathing, and loss of sleep. There was also pain in the abdomen and tympanitus, which hindered respiration. Physical examination revealed a pleurisy of the lower part of both lungs. Death was sudden.

Necropsy showed a bilateral pleurisy. On the surface of both pleuræ were found numerous cheesy foci, which had broken down, while the substance of the lungs showed no evidence of tubercular change. The heart was filled with hard and soft clots. The stomach was normal, and there was a localized diaphragmatic peritonitis. Other organs were normal.

CASE 2.

I. M.; age, 45 years; nativity, Ireland; admitted to U. S. Marine Hospital at San Francisco, Cal., March 17; died April 3, 1893.

History.—He complained of urethral stricture. Had been operated on several times. On admission only a No. 6 English sound could be introduced. On March 20 internal urethrotomy was performed, and No. 20 sound passed. No unfavorable symptoms occurred until March 22, when patient had a chill. On March 31 another chill occurred, and pain beneath sternum and dyspnœa appeared. The physical signs of pleurisy were present. Pain and dyspnœa increased daily until April 3, when, at 7:50 a. m., patient suddenly became unconscious and great depression of respiration occurred. Stimulants were freely administered and paracentesis thoracis performed. Patient rapidly sank and died at 10:25 a. m. He was an alcoholic.

Necropsy.—On opening the thorax a moderate quantity of hemorrhagic fluid was encountered in right pleural cavity. Numerous recent pleuritic adhesions on right side. The pleura was covered by a thick fibrinous exudation. The right lung was crepitant; it floated, but was greatly congested. The lung tissue immediately beneath the pleura was noncrepitating. Lung did not seem to be much compressed. Left lung and left pleura were normal. Heart: weight, 340 grams; normal and valves competent. Liver: weight, 2,400 grams; deeply congested; otherwise normal. Kidneys: right, weight, 150 grams; left, 160 grams; were normal. Spleen: weight, 260 grams; was congested, but otherwise healthy. Bladder normal. Urethra was examined, and the incision made by urethrotome found to be granulating. No sign of inflammation or infiltration found. Alimentary canal was found normal. The brain was carefully examined. The pia mater over covexity was opaque and a few adhesions were found between pia mater and arachnoid. These were doubtless due to a former disease. Otherwise the brain was normal.

EMPYEMA OF THE PLEURA.

Pneumonia.

W. P.; age, 38 years; nativity, Illinois; admitted to the U. S. Marine Hospital, Chicago, Ill., February 24; died February 28, 1893.

History.—Was first admitted to the hospital in July, 1890, for a persistent fistula from the chest cavity. He then stated that he had suffered with influenza for six months before admission, complicated by pneumonia, for which he had been treated at the Alexian Brothers' Hospital in this city. A pleuritic abscess which formed had been opened at that hospital and drained, but there was a continual discharge afterwards. Daily flushing with various antiseptic solutions was practiced without avail, and on July 15, 1891, an operation was performed at this hospital, which consisted in a subperiosteal resection of a portion of the sixth, seventh, eighth, and ninth ribs on the same side and a little in front of the fistula. There was no hemorrhage, and the patient reacted well. The good effects of the operation were noticeable, the affected side collapsed, the discharge diminished, and the patient began to improve. The wound closed, but having had a chill on July 8, 1892, a second operation was performed at the site of the old wound. A large-sized drainage tube was kept in position for a week, and the wound irrigated daily with carbolic-acid solution. The case remained about stationary, and the abscess opened into the lung and the patient expectorated large quantities of green, stinking pus. The external wound closed almost completely and, although pus continued to be coughed up occasionally, the man felt comparatively well. The sections of the ribs removed at the point of operation were reproduced by bone.

The patient was readmitted on February 24, 1893, suffering from bronchitis and lobar pneumonia.

Necropsy.—Lividity and *rigor mortis* marked. General nourishment fair. The heart, after opening, presented no evidence of disease. In the anterior mediastinum, under the sternum, were several small pus cavities, probably metastatic. A careful examination showed no track from the pleural cavity. The right lung was pneumonic; the left lung collapsed and bound by adhesions. The pleural cavity about the region of the upper left lobe, was occupied by 500 to 750 grams of cloudy serum and clots of fibro-purulent exudate. The rest of the cavity was entirely obliterated by adhesions. There were general adhesions in the pleural cavity posterior, and about situation of old fistula about 40 cm. of old drainage tube was discovered, surrounded by a small amount of very offensive pus. This tube was smaller than any used at this hospital for such purposes, and had probably been in the situation where it was found nearly three years. The abdomen was filled with gas; the peritoneum appeared normal. The abdominal distension was due to post-mortem changes. The liver appeared congested, but otherwise seemed to be in normal condition; it weighed 2,050 grams. The kidneys were normal; the right one weighed 210 grams; the left, 210 grams. The spleen weighed 140 grams; was dark, congested, very pulpy, and friable. In the lower posterior border of the left axillary region was a fistulous communication with the pleura, opening also through the lung into the bronchi. Death was evidently hastened by the presence of the foreign body, which probably caused a renewed attack of the disease. It is noticeable that the patient apparently recovered and resumed his work on board a merchant vessel as engineer, and served as such several months during the autumn and early winter.

EMPYEMA OF THE RIGHT PLEURA.

Probably from septicemia.

F. S.; aged 31 years; nationality, German; admitted to marine ward of German Hospital, Philadelphia, Pa., January 30; died April 16, 1893. Patient was admitted suffering from a felon on his right middle finger, which was opened and drained. While in the hospital the patient developed pleurisy and became very ill. Temperature rose to 40° C., falling by crisis. The whole right lung seemed to be affected. Physical examination showed dullness on percussion, absence of fremitus; breath sounds, however, were heard all over the affected area. There was much œdema over the thorax. A purulent effusion was suspected and a hypodermic needle was introduced into the pleural cavity, but no pus was found. Patient developed a morning rise of temperature and sweats. He was put on strychnia, digitalis, atropine, and cough mixture, but in spite of treatment he died suddenly.

Necropsy.—Large pus cavity on the right side containing 6,000 cc. of pus on measurement. The right lung was displaced toward the center; the left lung was nearly normal. Heart normal as to its valves, but contained large clots. Liver and spleen were both enlarged and both had undergone amyloid change, as had also the kidneys.

FOLLICULAR TONSILITIS—LARYNGITIS—ŒDEMA OF THE GLOTTIS.

Tuberculosis of the lungs.

S. T.; negro, aged 28 years; nativity, Kentucky; was admitted to the U. S. Marine Hospital, Evansville, Ind., March 28, 1893, at 11 o'clock a. m., and died at 12:30 p. m. on the same day.

History.—Had been under treatment at various times for advanced syphilis and bronchial affections. On March 28, 1893, applied at the city office for treatment; examination showed both tonsils inflamed and moderately enlarged; he was given a card to the hospital, where he arrived at about 11 a. m. Shortly after noon (about 12:20), while in the act of swallowing a dose of medicine, he was suddenly attacked with dyspnœa, and at 12:30, when the medical officer returned from the city office, he was apparently dead; but, in the hope of resuscitation, tracheotomy was quickly done. and artificial respiration practiced until its futility was clearly demonstrated. When the patient was first attacked the interne was called, and first attempted intubation; that failing, he was about to perform tracheotomy when the medical officer arrived.

Necropsy (*six hours after death*).—The larynx presented a condition of general inflammation and extensive œdema. Thorax contained about 500 c. c. of serous fluid. Lungs were highly congested. Left lung: Strong adhesions were found to thoracic walls, to pericardium, and diaphragm; there were two large cavities in the lower lobe, just at lower border, where there were strong adhesions to diaphragm; also some necrosed areas. Right lung: Cavities containing broken-down lung tissue, one in lower and two in upper lobe; also several consolidated and necrosed areas. Heart: Hypertrophy of right side; deficiency of mitral valve. Other organs not examined.

INFLAMMATION OF THE STOMACH AND BOWELS.

J. S.; age, 44 years; nativity, Germany; admitted to U. S. Marine Hospital, Chicago, Ill., September 10; died, September 23, 1892.

History.—Patient suffered from diarrhea for three weeks prior to admission. Discharges chiefly watery, with little tenderness or griping, and occurred twenty to thirty times a day. Stomach irritable, and vomited easily. No fever. Considerable cough, and, on auscultation, blowing sound over apices of lungs. Treatment consisted in rest, milk diet, and efforts to check vomiting and diarrhea. Paregoric and bismuth, emulsion of chloroform, and salol were all tried. The question of dysentery constantly arose, though evidently that was only part of the disease, and the idea of rectal injection and colonic flushing presented itself; but the symptoms were not sufficiently pronounced, it was thought, to justify disturbing an already highly excitable patient in this way. Toward the last crushed ice, with milk and lime water, were alone administered, and turpentine stupes put on abdomen. Patient grew very restless, the vomiting increased, not being ameliorated by anything given. The day before death occurred, the bowels moved but little and vomiting occurred but once.

Necropsy.—Post-mortem lividity and *rigor mortis* marked, and pupils evenly contracted. The heart and lungs were normal. There were some adhesions of the left pleura, particularly about apex of lung. The stomach was somewhat large, and contained some dark fluid, blood, and debris. The rugæ were almost obliterated over two-thirds of the mucous surface, and the epithelium denuded and macerated, with some points of hemorrhage. The small intestine was pale, with the epithelium denuded and macerated, and valvulæ conniventes destroyed in places. Features of dysenteric inflammation marked in cæcum and colon. The liver was mottled, and weighed 1,960 grams. The gall ducts were inflamed, and the cyst filled with inspissated bile. Right kidney weighed 250 grams; the left, 200 grams; in both the characters of the large white nephritic organ was fairly marked. Spleen weighed 300 grams.

COLITIS.

CASE 1.

Seaman P. O'B.; aged 35 years; a native of Ireland; entered the marine ward of the St. Francis Xavier Infirmary, Charleston, S. C., on July 28, suffering from dysentery; died August 5, 1892.

History.—Tuberculosis absent. Was a deck hand on pilot boat, and had been sick for two weeks. At this time there was much tenesmus and pain, with fifteen or twenty bloody stools per diem. The stools were at first simply those of dysentery, but for several days he had lost large quantities of blood. Face pale; radial pulse, lacking in tension, yet full and comparatively strong; heart sounds clear. Temperature, 35.6° C. Effort was directed to the stoppage of blood, and ergotin given hypodermatically, hot applications to surface, with pill of lead and opium internally. Symptoms responded readily to these remedies during the first days of treatment, but on August 1 the bleeding again started. Careful examination of mucus masses from the stools failed to reveal any possible amœbæ as the cause, and no treatment was directed to that possibility. Hot and cold enteroclysm was resorted to, with but little result; the bleeding continued, and death ensued.

Necropsy (seven hours after death).—Body of adult male, 155 cm. high; 78 cm. about shoulders; slight lividity; marked rigidity; pupils normal. Abdomen opened and the intestine removed. No evidence of peritoneal trouble; glands normal; mesenteric vessels congested; intestinal serosa normal. Mucosa of small intestine slightly catarrhal, with patches of glairy lymph. Cæcal mucosa hemorrhagic, extensive extravasations, also in mucosa of appendix, which was patent, and contained only a little food débris; mucosa of the colon was studded with plaques of extravasation, and was greatly congested; the tissue overlying many extravasations was necrotic, giving a membrane-like appearance, which at points had been detached, and left irregular shallow ulcers, exposing the muscularis. At the sigmoid flexure these denudations were very large and frequent, and from the amount of blood present here it was evidently the seat of most of the fatal hemorrhage. As before stated, there were no amœbæ in the colon, nor was the appearance of the lesion in the mucosa that of the condition dependent upon this parasite. It was not follicular nor diphtheretic; there was or had been no exposure to malaria; there were no extravasations upon the mucosæ of small intestine, bladder, ureters, or renal pelvis, nor upon that of the mouth or pharynx or bronchial tubes; only this very general extravasation into the mucosa of colon to indicate a possible purpura.

CASE 2.

P.L.; colored; aged 28 years; a native of Missouri; admitted to the Marine Hospital, St. Louis, Mo., July 13; died July 24, 1892.

Family history.—His father died from inflammation of the bladder. The cause of his mother's death he did not know. He has two brothers living. He did not know the cause of his only sister's death.

Personal history.—Always well till he was 22 years old. He had malarial fever six years ago, gonorrhea three years ago, an ulcer on his penis three and one-half years ago. He had no eruption on his body after he had the ulcer. Two weeks ago he began to feel stupid, and his bowels moved frequently. He suffered no pain except at stool. He said he had a chill every afternoon. His chills were cured by quinine, but nothing seemed to diminish the number of stools. His stools contained much mucus.

Necropsy (twelve hours after death).—Weight of heart, 350 grams. Valves efficient. The anterior and posterior pulmonary valves normal. The middle valve has a division showing an attempt to form a fourth valve. Intestines: The walls of the colon were thickened, and its mucous membrane covered with ulcers. Some of the ulcers had sharply defined edges, formed by the muscular coat. There was hardly any mucous membrane in the colon. In many places the mucous and muscular coats had sloughed away, leaving only the thin peritoneal surface.

CASE 3.

Ulceration.

J. McJ.; aged 53 years; nativity, Kentucky; was admitted to the U. S. Marine Hospital, New Orleans, La., March 11; died March 19, 1893.

History.—Patient had frequently been under treatment at this hospital for malarial and liver troubles, and was a prematurely aged and broken-down man, and a chronic alcoholic. For a week before admission he had suffered with dysenteric symptoms, and on admission was in a state of collapse. He rallied somewhat, but persisted in surreptitiously throwing away his medicine, and consequently succumbed to the disease.

Necropsy (eight hours after death).—Body that of an old, fairly nourished, white man. *Rigor mortis* marked. Heart: weight, 400 grams, filled with ante-mortem clots. Lungs: weight, left, 620 grams; right, 650 grams; both showing tuberculous deposits. Pleural cavities almost obliterated by old adhesions. Large intestine contained many ulcerations from the hepatic flexure of the colon onward for 12 cm. Liver, apparently normal; weight, 1,650 grams. Both kidneys cirrhotic; weight, left, 130 grams; right, 120 grams. Spleen: weight, 152 grams.

CASE 4.

Ulceration—Pericarditis.

F. B.; aged 31 years; nativity, Germany; was admitted to the U. S. Marine Hospital, New Orleans, La., June 2, 1893; died same day.

History.—Patient had been treated for colitis one month previously at this hospital and improved rapidly. He declared himself well, and requested his discharge after six days' treatment. On the day of his readmission he was brought to the hospital in the ambulance moribund. Treatment was confined to alcohol sponging and tablespoonful doses of brandy and milk, equal parts, every half hour. He died four hours after entrance.

Necropsy (twelve hours after death).—Body that of a muscular, well-nourished young white man. *Rigor mortis* present. Heart: weight, 220 grams; covered with semi-organized plastic lymph; pericardial sac inflamed, and covered with lymph; valves competent. Lungs normal; weight, left, 620 grams; right, 820 grams. Pleural cavities obliterated from old pleurisy. Large intestine ulcerated throughout its course. Liver normal; weight, 1,990 grams. Kidneys: weight, 230 grams left; 200 grams right. Spleen: weight, 290 grams.

CASE 5.

Ulcer—Perforation—Peritonitis.

W. R.; aged 26 years; nativity, West Indies; admitted to the marine ward German Hospital, Philadelphia, Pa., May 14; died May 15, 1893.

On admission patient complained of great pain in the abdomen, which, on examination, was found to be very tender and tympanitic. He had moderate fever, a pinched face, rapid, wiry pulse, and some vomiting. Opium was given in large doses, but patient rapidly grew worse, and died the next morning after admission.

Necropsy.—Body was discolored; belly very tympanitic. A large amount of pus exuded from the abdominal incision. The intestines were filled with gas, and there was a large quantity of pus in the peritoneum. A dark spot was noted on the external surface of the transverse colon, and in it a small opening. The gut was examined and a serpiginous ulcer found. The lungs were normal; the spleen enlarged. The heart was normal, but filled with clots.

APPENDICITIS.

Operation—peritonitis.

A. B.; age, 29 years; nativity, California; admitted to marine ward of Providence Hospital, Seattle, Wash., October 19; died December 5, 1892.

Was operated upon on the sixth day of an attack of suppurative appendicitis. The patient died five weeks later, and the necropsy twelve hours after death showed the following conditions: Body of emaciated white male. *Rigor mortis* well marked. The external wound, which was directly over the seat of the appendix, was healed, except at the point of entrance of the drainage tube. The tube passed out at a counter opening above and well around toward the back. The original abscess cavity was completely filled, and the stump from which the appendix was removed was closed, and perfectly healthy in appearance. The peritoneum was slightly thickened. This was more marked on the right side, and especially about the seat of the operation, where adhesions existed. Between the liver and the diaphragm was a large collection of pus, about 12 ounces. This had passed through the diaphragm into the lung, from which it was expectorated in considerable quantities for a week preceding death. The pus was very foul smelling, and was surrounded by a thick pyogenic membrane which covered the posterior two-thirds of the upper surface of the liver and the corresponding lower surface of the diaphragm. The lower part of the right pleural cavity was entirely obliterated by adhesive inflammation. Other than this the pleura was normal. The lungs were normal with the exception of the right base, which was broken down sufficiently to give entrance to the pus as above mentioned. The pericardium and heart were normal. The liver was fatty and a little over size. The spleen was slightly enlarged, but otherwise normal. The kidneys were large, white, and scarred. The pancreas were normal in appearance. The clinical history of the case showed that the pus above the liver had passed up from the wound, but at the post-mortem there was no evidence of pus or pus cavities below the liver, except along the course of the drainage tube.

ORGANIC STRICTURE OF THE ILEUM.

Laparotomy—pneumonia.

C. J.; aged 26 years; nativity, Norway; admitted to the U. S. Marine Hospital, Port Townsend, Wash., November 27, 1892; died June 13, 1893.

History.—The patient was originally admitted for a persistent diarrhea that had bothered him for over a month. There was not any pain or distress other than the frequent stools. His general health was fair, though he had lost some weight. The diarrhea was not considered of a serious nature, and he was given the usual remedies for that trouble. He did not improve and lost flesh rapidly. He gave a history of having a chancre some months before, but at this time there were no signs of syphilitic infection. He was given antisyphilitic treatment, but did not improve under it. The examination of the lungs and the abdomen did not reveal any pathological condition. None of the lymph glands were indurated or enlarged. The antisyphilitic treatment was discontinued for several weeks, and he was placed on a strictly meat diet. He improved for a time. He had been complaining for some time that the bowel contents seemed to stop at one place for a time, and then he felt bloated, until the fecal matter would rush through with such force that he could not control his bowels. After this he would feel better for several hours. A rectal examination was made, but was negative, except that it was found that a bougie could not be passed into the sigmoid flexure. An exploratory laparotomy was determined upon and performed May 31.

Operation: An incision 10 cm. long was made through the belly of the left rectus muscle. The coils of intestines were drawn out and passed back into the cavity as soon as they had been examined. A large annular stricture was found in the ileum. The stricture seemed to almost close the lumen of the gut. An intestinal anastomosis around the stricture was decided upon. The anastomosis was made by means of Murphy's anastomosis buttons. The anastomosis was made about 10 cm. from the stricture on each side. No other stricture was found. It was noted at the time that there were great adhesions in some portions of the peritoneum. The colon was firmly adherent throughout. Lying in the walls of the mesentery near the stricture were several masses the size of hen eggs. These masses were pellucid and resembled jelly. On the evening of the day after the operation there was a slight rise of temperature, but this fell to normal until the fourth day when the temperature went up to 39°. The temperature continued about 38° until the eleventh day when it rose to 39.2°. The lower lobe of the left lung began to consolidate at this time, and he grew rapidly worse and died of pneumonia, fourteen days after the operation.

Necropsy (fourteen hours after death).—The thorax was opened, and the lungs and heart examined. The lower lobe of the left lung was in the stage of gray hepatization. The upper lobe was congested; the right lung normal; the heart was normal. The abdomen was opened and the intestines drawn out, and search made for the anastomosis and the button. The button was found lying free in the colon. The loop, where the anastomosis had been made, was lying adherent in the pelvic cavity, just behind the bladder. The anastomosis was successful. The mesenteric glands were indurated and enlarged; liver and spleen enlarged and congested. The colon was slit open and it was found covered with ulcers, some of which were as large as a silver half dollar. These were typical syphilitic ulcerations. Brain not examined.

STRANGULATED FEMORAL HERNIA.

T. C.; age, 63 years; nativity, Virginia; admitted to the Marine Hospital, Memphis, Tenn., May 21; died May 25, 1893.

History.—The patient gave a history of a week's sickness with pain in the abdomen, nausea and vomiting, and progressive weakness. His abdomen was distended, his pulse weak, and he had slight fever. He appeared to be in a state bordering upon collapse, due to peritonitis. In the left groin was a tumor the size of a goose egg, elastic but not compressible. The tumor was only slightly tender. A diagnosis was made of strangulated incarcerated femoral hernia with peritonitis, but the diagnosis was necessarily uncertain, as the only symptoms were the presence of an incarcerated hernia of long standing, and the evidence of intestinal obstruction. On account of the uncertainty of the diagnosis, and the great weakness of the patient, no operation was attempted. Life lingered remarkably, and for two days before death the patient was almost pulseless.

Necropsy (ten hours after death).—Post-mortem lividity, none. *Rigor mortis*, strongly marked. General nourishment, poor. Pupils, slightly dilated. The heart weighed, after opening, 268 grams. The pericardial sac was normal. The heart itself and the thoracic aorta were normal. The left lung was not removed. It was apparently healthy. The pleural cavity of this side was obliterated by adhesions. The right lung weighed 622 grams. It was normal, as was also its pleural cavity. The peritoneum was free from evidences of inflammation. The small intestine was much distended, and was obstructed about 1 meter from its lower termination by a strangulated femoral hernia of the left side. The strangulated portion was very small and was gangrenous. The immediate cause of death was evidently the intestinal obstruction, as there was no evidence of peritonitis. When the tumor in the groin was examined it was found to be an old incarcerated omental hernia protruding from the saphenous opening and lying upon Poupart's ligament. The omental mass was continuous with the hernial sac and the neck of the sac was grown to the upper and outer borders of the femoral ring. The small strangulated knuckle of intestine was not discovered in this mass by examination from the outside. The liver was normal and weighed 1,382 grams.

ACUTE YELLOW ATROPHY OF THE LIVER.

W. M.; aged 29 years; nativity, Virginia; admitted to the marine ward, St. Vincent Hospital, Norfolk, Va., April 20; died April 28, 1893.

Had symptoms of catarrhal jaundice until the evening of April 23, when he complained of considerable, not violent, headache. The next morning was dull and somnolent, headache became rapidly worse, delirium and sopor alternating, and patient died April 28, 1893. His urine was examined April 24, 1893, and was found albuminous, and contained large quantities of bile pigment. This condition persisted, the albumen increasing up to his death. Only 180 c. c. of urine were obtainable during the last thirty-six hours.

Necropsy (*twelve hours after death*).—Mulatto, medium size, good muscular development and condition; jaundiced very deeply with ecchymoses of skin, and dark fluid exactly like the black vomit of yellow fever escaped from the mouth on turning him over on his face. Brain: Veins of meninges full of blood; tissue everywhere tinged yellow, as is ventricular fluid, which is normal in amount. Brain rather softer than normal. Thorax: Pericardial fluid tinged with blood; normal in amount. Old pleuritic adhesions over both lungs, more marked on the left. Lungs intensely congested, especially in the posterior portions. Heart yellow, soft, and flabby in diastole. Liver very small, less than 1,000 grams (scales not obtainable); part dark and part pale and fatty ("café au lait"); firm but readily torn. Gall bladder empty. Spleen smaller than normal. Stomach contained dark fluid like that from the mouth. Intestines mainly empty, but some black tarry matter in the transverse colon. Kidneys very much swollen, the capsule gaping widely when cut. Bladder almost empty.

CIRRHOSIS OF THE LIVER.

O. McD.; aged 32 years; nativity, Illinois; admitted to the U. S. Marine Hospital Chicago, Ill., October 3, 1892; died January 9, 1893.

History.—When admitted he had a swollen abdomen, the swelling having begun about two months previously, followed later by œdema of the feet. He was a hard drinker, and suffered from constipation. He had a coated tongue and occasional attacks of vomiting. The result of the examination of the urine was negative. There were also no abnormal heart sounds. He became jaundiced while at the hospital. Paracentesis of the abdomen was performed several times, each operation evacuating from 4,000 to 8,000 c. c. of serum. Toward the last, the operation was done every two weeks on account of dyspnœa. Progressive emaciation and anorexia predominated, and his condition was made worse by hemorrhages from the stomach toward the last. He received general supportive treatment.

Necropsy.—General nourishment of body good; pupils normal; no *rigor mortis*; no lividity. The heart, after opening, weighed 310 grams. Pericardium contained a very small amount of fluid and appeared to be in a normal condition. Aortic and mitral valves in good condition. The heart muscle was pale and flabby. The left lung weighed 430 grams; the right, 590 grams. The abdomen was filled with fluid. The liver was enlarged, sclerosed, and had undergone fatty degeneration, being almost white in color. It weighed 1,480 grams. The kidneys were large and anæmic, the left one weighing 210 grams, the right 200 grams. The markings were very distinct. The spleen appeared normal, and weighed 415 grams.

CIRRHOSIS OF THE LIVER AND KIDNEY.

P. S.; aged 60 years; a native of Ireland; admitted to the Marine Hospital, St. Louis, Mo., on April 6, 1892; died July 11.

Personal history.—He has had malarial fever occasionally. When admitted he said he had had a chill every night for ten consecutive nights. He had no fever when admitted. After his chills had been stopped he still complained of shortness of breath and pain in the epigastrium. His appetite was poor. There was some ascites. He had an uncomfortable feeling in the right side. The liver was much enlarged, feeling round and hard at the lower border. He had no cough. His principal difficulty was from dyspnœa. He failed steadily, and died July 11, 1892.

Necropsy (*eight hours after death*).—Legs and feet œdematous. Cicatrix above right clavicle about 12 cm. long, and one over scapula of the same dimensions, caused by a shell at the battle of Shiloh. Lungs: Left lung weighed 570 grams; right, 570 grams; the upper lobes of both lungs in good condition; there were old pleuritic adhesions on both sides; the lower lobes of both lungs were the seat of hypostatic pneumonia; they did not float in water. Spleen: Weight, 285 grams; it was dense and tough. Liver weighed 1,800 grams; Glisson's capsule much thickened, and cut with a creaking sound. Kidneys: Right, normal in size; capsule adherent, and walls of blood vessels thickened; weight, 236 grams; left kidney very small; cortex thin and only one pyramid visible; capsule adherent and much thickened; weight of left kidney, 49 grams. Heart: Pericardium universally adherent and very much thickened; many atheromatous patches in the aorta; the muscular tissue of the right side of the heart had undergone fatty degeneration.

ACUTE PERITONITIS.

G. N.; age, 27 years; nativity, Russia; was admitted to U. S. Marine Hospital at San Francisco February 6, 1893; died February 8.

History.—On morning of day of admission patient fell down the hold of a vessel. His right forearm (both bones) was fractured in middle third. Patient stated that he fell striking on pit of stomach. There was some shock, and he complained of pain in abdomen. On examination there was no excessive tenderness over abdomen, though firm pressure just below sternum elicited pain. Abdomen slightly tympanitic. Had to draw urine with catheter. On the 7th he had some fever and cramps in abdomen. Pulse very weak. Death on morning of February 8.

Necropsy.—Right lung congested. Left lung bound down by pleuritic adhesion. Abdominal cavity contained about 500 c. c. of bloody fluid. Intestines were adherent and covered with purulent exudation.

ACUTE NEPHRITIS.

Case 1.

R. M.; colored; aged 27 years; admitted to the U. S. Marine Hospital, Cincinnati, Ohio, May 7; died May 9, 1893.

History.—On admission showed some œdema of eyelids and complained of feeling very badly; had considerable dyspnœa; heart's action tumultuous. There was some swelling of legs and face, which came on suddenly; the urine showed a large quantity of albumen. On the evening of the 9th general clonic convulsions came on. He was given 4 grams of magnesium sulphate every hour, as a depletive, but died at 12 o'clock.

Necropsy (*eight hours after death*).—A fair amount of *rigor mortis;* nourishment good; pupils slightly dilated; œdema of feet and legs. The heart weighed 434 grams; some fluid in pericardial sac. Aorta: syphilitic deposits near valve. The lungs about normal in weight; considerable fluid in pleural cavities; kidneys enlarged and inflamed; possibly acute inflammation of parenchyma. Liver and spleen both hard, with scars or contractures showing on their surfaces.

Case 2.

H. K.; aged 27 years; nativity, Rhode Island; admitted to the U. S. Marine Hospital, New Orleans, La., December 8, and died December 24, 1893.

History.—On admission the patient seemed depressed and hypochondriacal. A dysentery, which yielded readily to treatment, was the apparent occasion of his seeking relief. On December 16 attention was drawn to his urine having suddenly failed in quantity, a microscopical examination detecting a number of tube casts and hyaline cylinders. Although the lesion seemed of no great importance, the patient was in a profound state of melancholy, and, depressed by mental emotions beyond the reach of the materia medica, sank rapidly.

Necropsy (*six hours after death*).—Body that of a slender, fairly nourished young white man. Lividity and *rigor mortis* marked. The kidneys only were examined, they presenting an anæmic appearance externally, with, on section, many points of inflamed tissue.

ACUTE BRIGHT'S DISEASE.

E. B.; age, 19 years; nativity, England; admitted to U. S. Marine Hospital, San Francisco, Cal., November 14, 1892, suffering from acute Bright's disease.

History.—Taken ill at sea about September 1, and went to bed. In about a week general dropsy supervened. According to statement of captain of ship, over thirty convulsions, occurred in one night, about September 15. When admitted he was unconscious, and had general anasarca. He improved somewhat under treatment, became rational, and the secretion of urine was reestablished, but dropsy became worse. Abdominal paracentesis was performed November 27, and 4,500 c. c. fluid drawn off. Temporary relief followed, but in two days abdomen was again full, as well as the right chest. He again became unconscious and delirious, and died at 3:30 a. m. November 30.

Necropsy (*twelve hours after death*).—Abdomen and chest full of fluid. Lungs normal. Heart normal (not enlarged). Liver normal. Spleen normal. Kidneys: right enlarged; cut surface of cortex white. Cortex thickened; minute hemorrhages visible. Capsule nonadherent; weight, 180 grams; left kidney same as right; weight, 175 grams.

ACUTE BRIGHT'S DISEASE—CONGESTION OF LUNGS.

O. M.; aged 39 years; admitted to U. S. Marine Hospital at San Francisco, Cal. June 16, 1893; died June 17, at 12:35 a. m.

History.—On admission he complained of dyspnœa, loss of appetite, headache, pain over kidneys, and suppression of urine. On day preceding admittance he voided a small quantity of highly-colored urine, which burned him on micturition; said he had been sick six days. Legs were œdematous and physical signs of ascites present; deeply pigmented papular eruption on back, which looks specific. He denied syphilis. At 9 o'clock p. m. patient became cyanosed and dyspnœa much aggravated. About 1,000 c. c. of blood were drawn from median cephalic vein and stimulants administered; catheterization was attempted, but bladder was empty; dry cups were applied over kidneys; dyspnœa progressively increased and paracentesis abdominis attempted, but no fluid was withdrawn. As he was being moved by the nurse from chair to bed he expired at 12:35 o'clock a. m.

Necropsy (*thirty-four hours after death*).—*Rigor mortis* marked, face cyanosed, body plethoric, extremities œdematous. Heart: About 50 c. c. of effusion in pericardial sac; heart hypertrophied; ante-mortem clot in arch of aorta; endarteritis of ascending portion of arch; valves of heart competent. Lungs: Both lungs very much congested and somewhat œdematous; small amount of pleuritic effusion. Liver weighed 2,680 grams and was much congested. Spleen was congested. Small amount of fluid in abdominal cavity. Kidneys presented evidences of acute parenchymatous nephritis.

CHRONIC BRIGHT'S DISEASE

CASE 1.

E. B.; aged 40 years; nativity. Sweden; admitted to U. S. Marine Hospital, San Francisco, Cal., September 12, 1892; died September 18.

History.—This man had been admitted to the hospital several times with all of the symptoms of Bright's disease. When admitted on above date he was suffering from dysentery which developed after an attack of cholera morbus. Two days before death uræmic symptoms set in from which he died.

Necropsy.—Heart slightly hypertrophied, otherwise normal; spleen and liver enlarged; lungs normal; kidneys very small. Brain and spinal cord not examined.

CASE 2.

F. H.; aged 39 years; nativity, Finland; admitted to U. S. Marine Hospital, San Francisco, Cal., October 14, 1892, with what was thought to be acute bronchitis. There was no history of previous sickness.

Not improving, an examination of urine was made, and blood and large number of hyaline and granular casts were found. The urine diminished in quantity—not over 200 c.c. being passed in twenty-four hours. Stomach irritable, not retaining food or medicine. This irritability of the stomach was soon controlled, and diuretics, digitalis, and active diaphoretics (hot bath, hot bottles, blankets, etc.), were resorted to, with some effect on kidneys. At one time he seemed somewhat better, but he afterward sank, and died on the morning of October 24, 1892.

Necropsy (fourteen hours after death).—*Rigor mortis* still present to some degree Body thin, but not emaciated. Brain: More than usual amount of post-mortem blood in veins of cortex. Brain somewhat congested. Ventricles contained an excess of fluid. Thorax: Lungs adherent to chest wall, especially at apices. Extensive tuberculosis; with small cavities in right lung; slight involvement of left lung. Heart larger than normal; left ventricle hypertrophied; valves competent; weight, 430 grams. Abdomen: Stomach normal, except congestion at cardiac extremity. Liver normal; weight, 1,785 grams. Spleen normal; weight, 204 grams. Pancreas normal. Kidneys: Suprarenal capsules normal. Right kidney large, congested; blood flowed from cut surface; fatty streaks; cortical substance thickened; capsule slightly adherent; weight, 220 grams. Left kidney same as right; weight, 210 grams. Rest of body not examined. Cause of death, acute exacerbation of chronic Bright's disease. Large white kidney.

CASE 3.

Cyst of the kidney.

D. H. L.; aged 42 years; admitted to U. S. Marine Hospital, port of Boston, Mass., March 4, 1893, suffering from amyloid kidney. Urine contained about 1½ per cent of albumen; extremities very much swollen; dyspnœa decided. Died March 30, 1893, from œdema of lungs and heart failure.

Necropsy (*eighteen hours after death*).—Body that of large, strongly-built male, well nourished; no cicatrices; *rigor mortis* marked; post-mortem lividity on neck and back. Pleural cavity contained 700 c. c. fluid; pleura not adherent. Heart hypertrophied; weight, 525 grams; mitral valve incompetent; ante-mortem clot filling right side of heart. Both lungs œdematous; weight, left, 585 grams; right, 735 grams. Peritoneum pale. Liver pale and amyloid; weight, 2,180 grams. Gall bladder empty. Right kidney large, pale, capsule easily peeled; a cyst the size of a pea on the outside. Left kidney contained a retention cyst—in fact, the pelvis was so dilated that kidney and cyst were all one. Ureter also dilated to size of little finger for three inches and constricted so as to cut off, almost completely, connection with bladder; the cyst contained 290 c. c. fluid. Kidney and cyst while full weighed 740 grams; when emptied they weighed 215 grams. Cyst about twice the size of a man's fist. Bladder empty.

CASE 4.

Granular kidney.

W. P.; aged 31 years; nativity, North Carolina; admitted to Marine Hospital, port of Boston, Mass., March 17, 1893, suffering from dyspnœa; slight cough; no fever;

pulse moderately full and 80 to the minute. Difficulty in breathing increased; complained of no pain. Died of heart failure at 4 a. m. on March 22, 1893.

Necropsy (eight hours after death).—Body of large, strongly-built, muscular male; no cicatrices observable; no post-mortem lividity; only slight *rigor mortis;* lips covered with bloody froth. Thorax: Pleural cavity contained about 1,500 c. c. of serous fluid; pleura not adherent to lungs; pericardial sac contained about 300 c. c. fluid; both lungs œdematous; larynx and trachea coated with sticky mucus; bronchi inflamed. Left lung weighed 585 grams; right lung weighed 652 grams. Heart hypertrophied, its valves normal; right heart contained both ante and post mortem clots extending into arteries; weight of heart, 500 grams. Liver congested and hard; weight of liver, 1,725 grams. Spleen soft and pulpy, its substance easily torn; weight of spleen, 160 grams. Kidneys contracted and granular; capsule could only be stripped off by tearing substance of organ; line between medullary and cortical substance obliterated. A small concretion the size of a pea was embedded in the periphery of left kidney; both kidneys showed lesions found in advanced stage of Bright's disease (granular kidney); weight of left kidney, 55 grams; weight of right kidney, 77 grams.

CASE 5.

Contracted kidney.

J. M.; aged 58 years; nativity, Germany; admitted to U. S. Marine Hospital at San Francisco, April 24, 1893. He was discharged at his own request June 24, 1893; readmitted June 28, 1893, and died June 29, at 2:10 o'clock a. m.

History.—On admittance he complained of asthma, pain in precordium, dyspnœa, and palpitation of heart. Urine increased in amount; appetite poor. Examination of urine showed albumen and tube casts. Physical examination showed hypertrophy of heart. He was treated for chronic Bright's disease, and progressed fairly well under treatment. On June 24, 1893, he asked for his discharge, intending to seek a more favorable climate. On June 28, 1893, he was readmitted. At this time he was cyanosed, and his heart was rapid and weak. There was suppression of urine and general anasarca. His condition rapidly became worse, and in spite of treatment he died on June 29, 1893, at 2:10 o'clock a. m.

Necropsy (nine hours after death).—*Rigor mortis* marked; much posterior discoloration; general anasarca present. Thorax: Pericordial effusion present, about 50 c. c. in quantity. Heart weighed 600 grams. Ante-mortem clots both in auricles and ventricles; valves were competent. A small vegetation was present on one of the aortic cusps just below free edge. Pleuritic adhesions present on right side. Both lungs were congested and œdematous. Liver weighed 1,350 grams. It was pale in color and small. It presented the "nutmeg" appearance of chronic, passive congestion. Spleen weighed 220 grams. Kidneys were small and irregularly contracted; capsule adherent; cortical substance diminished. The condition was that of a chronic interstitial nephritis. About 60 c. c. of urine were found in bladder.

CASE 6.

B. B. W.; aged 54 years; nativity, Massachusetts; admitted to the marine ward, German Hospital, Philadelphia, Pa., July 14, 1892, and died August 6.

History.—Patient on admission complained of much pain in the epigastrium; tongue glazed and red, and pica and boulimia were noted. Treatment was directed toward relieving the stomach, but patient began to fail rapidly, and it was noticed that the stomach was not the main seat of trouble. The weather was remarkably hot and close, and the patient's respirations were hurried. Being a very large man he seemed to suffer much from the heat. Respirations becoming shallower, it was found that the heart was becoming embarrassed and that the lungs were filling and becoming œdematous. Wine, atrophia, strychnia, digitalis, and ammonium carbonate were administered, but to no avail. Rusty sputum was expectorated, and slight amount of albumen discovered in urine. Patient finally became delirious and died.

Necropsy.—Body large and very fat. Thorax opened. Fatty infiltration of all the serous membranes noted. Lungs heavy; when put in water sank and then rose again; a thick grumous fluid was exuded therefrom. Epicardium and pericardium very thick with adipose tissue. A heavy comb appearance of the pericardium showed that an old inflammation had once existed there. About 128 c. c. of fluid was found in the sac. Left ventricle much hypertrophied. Kidneys examined; evidences of parenchmatous degeneration noted. Stomach hyperæmic; otherwise normal.

CASE 7.

A. McC.; aged 40 years; nativity, Ireland; admitted to marine ward, St. Francis Xavier's Infirmary, Charleston, S. C., March 1, 1893; died May 28.

History.—On admission patient stated that at times for three years he had had dropsy, and had suffered from dyspnœa on exertion during the entire time. He was, on admittance, suffering from anasarca, dyspnœa, great debility, headache, cough, with profuse expectoration, anorexia, and diarrhœa. On physical examination coarse mucous râles were heard throughout the chest. Apex beat of heart was felt in mammary line, 1 inch below nipple, and a systolic murmur was heard with greatest intensity at the same point. Urine, though passed in considerable quantity, was of low specific gravity and highly albuminous. The case had progressed so far that treatment could be little more than palliative. May 20 about 10,000 c. c. of serous fluid were withdrawn from the abdominal cavity, with the result of relieving the dyspnœa. A few days later he became dull and stupid, passed rapidly into a comatose state, from which he never rallied.

Necropsy (sixteen hours after death).—Body emaciated. . Pericardial fluid normal. Heart greatly enlarged, especially the left ventricle. Ante-mortem clots in both sides of heart. The valves were competent, except the mitral. Pleural cavities normal. Both lungs were anthracosed and œdematous throughout. Liver normal in size, pale and fibrous. Spleen was about one-half the normal size, dark-colored and bloodless. Kidneys small and pale. The capsules were firmly adherent, and the cortical portion had undergone fatty degeneration. Bladder contained a small quantity of pale urine. The abdominal cavity was distended with fluid. Other organs not examined.

CASE 8.

Tuberculosis of the lungs.

P. B.; aged 47 years; nativity, Germany; was admitted to the U. S. Marine Hospital, New Orleans, La., February 28, 1893; died April 27.

History.—The patient, a withered, dried-up old man, complained of loss of appetite and a distressing cough, which came on about 2 a. m. daily; difficult expectoration, general failure of physical strength, and emaciation. Auscultation revealed nothing of importance, except some involvement of the mitral valve. Later examinations discovered albumen in the urine of variable quantity, and at times its presence could not be detected by the most delicate chemical tests. The lungs began to give trouble, and although the temperature and pulse were not disturbed materially, vesicular resonance was replaced by broncophony, and extensive lesions became apparent. Treatment was mainly supportive and reconstructive, with palliatives for cough. A troublesome diarrhea materially hastened the end. Urine suppressed last two days.

Necropsy (twelve hours after death).—Body that of a small ($4\frac{10}{12}$ feet), emaciated, old white man. Post-mortem lividity and *rigor mortis* marked. Heart weight, 297 grams, loaded with ante-mortem clots, and the mitral valve almost undiscernible. Upper lobes of both lungs filled with tubercular deposit. Weight: Left, 620 grams; right, 717 grams. Peritoneum congested. Intestines studded with small ulcers, growing more frequent toward the rectal end. Liver pale brown, mottled with yellowish spots, fatty; weight, 1,649 grams. Kidneys cirrhotic; capsules closely adherent. Weight: Left, 132 grams; right, 117 grams. Spleen normal; weight, 215 grams.

CASE 9.

Chronic nephritis.

H. K.; aged 50 years; nativity, Germany; admitted to the U. S. Marine Hospital, Cincinnati, Ohio, on March 25, 1893; died, March 28.

History.—The patient had been noticeably unwell for about two weeks before admission to the hospital. When admitted complained of pain in back, and had much œdema of lower extremities, scrotum, penis, and face. The urine showed a large amount of albumen. He was in the hospital only two days. On the night of the second day he had convulsions, and died a few hours after.

Necropsy (held on March 29, 1893).—General nourishment good. The heart was apparently normal; some effusion in the pericardial sac; effusions also in both pleural cavities and in the abdominal cavity. The kidneys presented evidences of inflammation. They were contracted, and showed increase of connective tissue. The capsules were adherent.

CASE 10.

P. O'B.; aged 35 years; nativity, Ireland; was admitted to the Marine Hospital, Stapleton, Staten Island, November 23, 1892; died December 22.

History.—Patient was admitted for ulcer of the penis and phimosis, from which he recovered. On the morning of December 12 the patient complained of soreness across his abdomen, nausea, and vomiting, and stated that he had not passed any urine since the preceding evening. Patient was catheterized, but there was no urine in the bladder. The nausea continued. Infusion of digitalis was ordered on the 14th, and on the 15th patient stated he had passed about 30 c. c. of urine. The digitalis was continued. On the 16th patient passed about 200 c. c. of urine. He again passed a considerable quantity of urine on the 17th. His condition continued about the same until the evening of the 21st, when whisky and ammonia were ordered. The patient continued to grow weaker during the night, and died at 9. 36 a. m., December 22, 1892.

Necropsy (twenty-four hours after death).—There was marked post-mortem rigidity and hypostatic congestion. Abdomen was distended from tympanitis of the intestine. The left ventricle of the heart was hypertrophied, and the right ventricle atrophied. The aorta was the seat of calcareous deposits just above the aortic valve. The lungs were deeply congested. The stomach was distended with gas, displacing the liver upward, and that in turn displaced the heart, pushing that organ upward and to the left. The liver was congested and hard, grating under the knife. The spleen was pale and nodular. The kidneys were enlarged and hard, the cortex quite pale, and the bases of the pyramids were congested. The ureters were normal in size, and the bladder contained about 150 c. c. of pale urine.

ORGANIC STRICTURE OF THE URETHRA.

CASE 1.

Chronic cystitis and pyelitis.

D. K.; aged 53 years; nativity, Ireland; was admitted to Marine Hospital, Stapleton, Staten Island, N. Y., February 15, 1893, and died February 20.

History.—Patient stated that he had had a stricture of the urethra for twenty years. He denied ever having had gonorrhea, and stated that the stricture was due to riding in the saddle. His urine can not be passed voluntarily; it dribbles away He has been in this condition for the past eighteen months. He was also troubled. with a slight diarrhea and occasional attacks of vomiting. The evening of the day of admission he complained of sleeplessness, and a sedative mixture was ordered. He gave an alcoholic history, and after the operation was performed on him told the nurse he had been on a long debauch just before admission. On the 17th, after the administration of chloroform, the meatus of the penis was found to be very small, admitting no higher than a No. 8 sound. It was cut and dilated to 40° on the dial of the Otis urethrotome, and a stricture was then found 6 cm. from meatus, which also was dilated to 43° and cut. A second stricture was found 17 cm. from meatus; it was dilated to 40° and cut. Sounds up to No. 19 were passed, and a bandage applied to penis. The hemorrhage was slight. The night of the operation the patient complained of pain. Ten c.c. of the U. S. P. solution of morphia were ordered. The next morning he was better, having slept very well during the night, although the radial pulse was imperceptible. There was hemorrhage from urethra when urinating, patient losing, however, much less blood than the day previous. Whisky, 40 c.c., and aromatic spirits of ammonia, 2 c.c., were administered every three hours. On the morning of the 19th patient seemed better; hiccoughed during the night, but had no hemorrhage. Urine when passed is quite bloody, and smells badly. The whisky was continued. On the 20th the pulse seemed stronger, and could be felt at wrist. The hiccough still continues. Patient passed about 700 c.c. of urine during the night. Morphia sulphate was administered, which relieved his hiccough. Six p. m.: Patient has just passed quite suddenly into a semicomatose state, with pupils very much contracted. Whisky and nux vomica were administered hypodermically, and patient rallied for a short time, during which his bladder was irrigated with a 4 per cent solution of boracic acid. At 8 p. m. he began to sink rapidly, and at 9 p. m. died in a comatose state.

Necropsy (*fourteen hours after death*).—Body well nourished. *Rigor mortis* well marked. Heart normal; ante-mortem clots in both right and left ventricles. Both lungs œdematous. Small adhesion at apex of right lung. Liver very pale and fatty. Spleen the consistence of a blood clot. Left kidney very large, pale, and pelvis entirely filled with fat. This fat also invaded and had destroyed the inner portion of all the malpighian pyramids. Urethra opened throughout its entire extent. Tissues surrounding the line of incision through strictures appeared healthy. A pocket about 8 cm. from meatus was found which led down into corpus spongiosum. Bladder walls greatly thickened and cavity appears hardly sufficient in size to hold more than 60 c. c. of fluid. Mucous membrane discolored and covered with pus. The cystitis appears to have been of many years' duration. There was a chronic inflammation of the prostate.

CASE 2.

R. M.; aged 38 years; nativity, West Indies; admitted to Marine Hospital, Stapleton, Staten Island, September 20, 1892; died September 27.

History.—Patient was brought to the hospital by the captain of the vessel, and upon admission was so weak that it was almost impossible to obtain a history from him. The captain said that the man had been sick for ten days with chills and fever, the chill appearing regularly twice a day. He complained of pain in the back, accompanied by tenderness over the abdomen, and continued to hiccough. Great emaciation; fæces passed involuntarily, and urine dribbled away continually. Pulse, 86; temperature, 36° C; respiration, 23. On introducing a catheter, two strictures of the urethra were found, one just posterior to corona glandis, another in the prostatic portion. The urine, when withdrawn, was decomposed and mixed with blood and pus. Subsequently the bladder was emptied every three hours by means of a catheter, but because of his weakened condition no further operative measures were adopted. He continued to grow worse, and died on date above given. Treatment was mainly stimulative.

Necropsy (seven hours after death).—Body very poorly nourished. *Rigor mortis* well marked. The pericardial fluid was normal, both in quantity and color. The heart and valves normal; an ante-mortem clot was found in the right ventricle. Lungs appeared normal. Liver, pale in color. Spleen, pale in color. Intestines, ileum congested in its lower portion. Bladder very much smaller than normal; walls very much thickened, mucous membrane very much congested and inflamed. Bladder contained about 80 c. c. of urine. Prostate gland was enlarged to twice its normal size. Urethra: Two bands of fibrous tissue were seen just behind corona glandis; also another band about junction of membranous with prostatic portion of deep urethra.

CARIES OF ETHMOID AND SPHENOID BONES.

J. D.; aged 45 years; nativity, Ireland; admitted to the marine ward, St. Vincent's Hospital, Norfolk, Va., March 24, 1893; died May 13.

Had suffered from frontal headaches for sometime before entry (about eighteen weeks) this continued with nocturnal exacerbations, at times very severe, until death. Then supervened diminution, and finally loss of sensation over the two superior divisions of the fifth nerve on the right side, and paralysis of the muscles supplied by the third, fourth, and sixth nerves on the same side. Œdema of the lids, and later, conjunctivitis, with sudden loss of sight in the right eye. The left eye was involved just before death. Just near the close of life his temperature, which had been normal or not over 37.5°, showed the presence of a septic process. Two operations were made through the orbit looking for diseased bone, with little relief. Died in coma.

Necropsy (eight hours after death).—Large, powerful man, somewhat emaciated. Head: Meninges of vertex about normal, as was brain at vertex. At the base the vessels of the pia mater covering the anterior part were distended and showed some escape of blood. Dura mater over the base of the anterior fossa and part of the middle fossa was much thickened—in one place 5 cm. It was tough and vascular, and peeled easily from the bone save over the ethmoid, body of the sphenoid, and small part of the right orbital plate. At these places it was intimately blended with the bone, which was converted into a cheesy substance. It was hard and dense next to the brain (the arachnoid cavity is partly obliterated here) and soft and purulent below. The cavernous and circular sinuses could not be made out, they being replaced by connective tissue and softened material. The cribriform plate of the ethmoid existed only as a cheesy pulp, as also did the body of the sphenoid. The wings of the latter were, even to their extremities, carious and rarefied, but not broken down. The disease was sharply confined to these wings, the bones adjoining being healthy and sound, and save the cribriform plate the ethmoid was sound. Only the head examined.

ARTHRITIS OF THE KNEE.

Lobar pneumonia.

E. M.; aged 44 years; nativity, Sweden; was admitted to U. S. Marine Hospital, Stapleton, Staten Island, March 16, 1893; died March 17.

History.—Patient stated on admission that he had been sick for the past six days; that his sickness commenced with a pain in his back and with chilly sensations. Pain, swelling, and soreness about the knee. Could not walk. Had coughed some. Expectoration scanty, thick, and gray. Anorexia. Bowels loose.

Physical examination.—Body well nourished. Tongue, coated. Lungs, sonorous and sibilant râles in both. Heart sound at apex weak; no murmur detected. Liver and spleen normal. Right knee very tender and painful. Pain in right shoulder and chest, which embarrasses respiration. On the morning of the 17th patient stated that he felt better. That afternoon, about 4 p. m., œdema of the lungs came on, and patient died at 7 p. m., notwithstanding the fact that stimulants were freely administered to him.

Necropsy (*twenty hours after death*).—Body well nourished. *Rigor mortis* well marked. Hypostatic congestion. Right knee swollen. Intestines distended with gas. Right lung adherent to chest wall; very small, and in a state of gray hepatization. Left lung congested throughout lower lobe. Heart large; both ventricles hypertrophied and contain large ante-mortem clots. Liver large and mottled. Upon section it was found to be quite fatty. Spleen appears a little larger than normal. Both kidneys large and pale. Upon opening the knee joint the bursa patella was found distended, with a purulent fluid, and the synovial membrane covered with lymph. The patella on its under surface was found to be denuded beneath this denuded area the bone was necrosed.

MULTIPLE INJURY—SUPPURATION OF THE KNEEJOINT—CALCULI OF KIDNEY, AND URETER—HYDRONEPHROSIS.

J. Q.; aged 48 years; nativity, China; admitted to the U. S. Marine Hospital, port of Boston, Mass., March 25, 1892; died July 25.

Was asleep in his bunk night of March 23, when another Chinaman struck him with a butcher's cleaver. During the struggle which followed, wounds were inflicted as follows: A long incised wound extending between the eyes and down the nose, thence across the right cheek. Incised wound in median line on forehead 3 cm. in length, fracturing the outer table of frontal bone, also the nasal bones. Cut 5 cm. in length over the occiput. Incised wound 6 cm. long, extending to the costal cartilage over the base of the heart. Incised wound on the back of the right arm behind the elbow, and another 5 cm. long about 7 cm. higher. A cut involving the right rectus abdominalis parallel with the transversalis on a level with iliac crest 7 cm. long. Cut 7 cm. long on the outside of the left knee, involving the joint. Patient's whole system saturated with opium. The above wounds had been dressed with plaster, and all except the one on the occiput were suppurating. Wounds on chest, abdomen, and leg were approximated with interrupted sutures, irrigated with H_2O_2, and sublimate dressings applied.

April 4, 1892.—Left kneejoint irrigated and tubes inserted. Refuses any operative interference after the case has been explained. He is very obstinate and troublesome; objects to ordinary dressings and especially to irrigation of knee.

April 20, 1892.—Vomited several times. For several days tubes removed and joint irrigated mornings with warm distilled water; evenings dressings changed, external surface irrigated with H_2O_2. Improved.

April 28, 1892.—Wounds of chest, abdomen, face, arm, and right leg healed.

May 4, 1892.—Wound of skull closed. Left knee still suppurating. Cartilages probably involved. Irrigated with solution of carbolic acid (1–80).

May 8, 1892.—Dressed twice daily as usual.

May 20, 1892.—Counter-opening made on inner side of knee, pus evacuated, and cavity irrigated with H_2O_2. Knee dressed with bichloride gauze.

June and July.—Patient gradually failing and suppuration of kneejoint increasing. Operation refused after case and necessity for operation had been fully explained repeatedly, so that he thoroughly understood. Died July 25, 1892.

Necropsy (*three hours after death*).—*Rigor mortis* absent; general nourishment very poor. All valves of heart competent and walls of ventricles normal. Weight of heart, 205 grams. Pericardial sac contained 15 c. c. clear serum. A few slight pleuritic adhesions at apex of both lungs. A few hard nodules near apex of each lung. Weight of left lung, 255 grams; right, 460 grams. Liver congested; color normal; weight, 950 grams. The left ureter at the point where it crossed the brim of the pelvis contained a calculus which completely stopped the flow of urine through it, causing hydronephrosis of the left kidney. The retention of urine in the kidney had dilated the pelvis of this organ and the kidney substance around it had become very thin. The weight of the calculus was 1 gram. In the pelvis of the right kidney was a calculus which filled the pelvis of this organ, and processes from it entered the infundibula. The weight of this calculus was 14 grams. Weight of left kidney, 120 grams; right, 125 grams. There were no symptoms during life indicating the presence of calculi in the kidney and ureter. He passed a moderate quantity of water, and made no complaints whatever when questioned. Spleen congested; weight, 192 grams. The semilunar fibro-cartilage and crucial ligaments of the left knee were much softened. The articular surface of the left femur and tibia were devoid of their articular cartilages, which left the bone bare and much roughened.

Remark.—The foregoing case is of some considerable interest in view of the medico-legal questions suggested, rather than from any unusual features from a strictly professional standpoint. The legal questions involved relate to the authority of the physician when the patient is too ignorant to decide wisely for himself as to the expediency of an operation. To what extent can the surgeon legally go in enforcing treatment in such cases? The lack of cooperation in this instance was particularly unfortunate, and undoubtedly was a marked factor in preventing a favorable result. It is clearly the duty of the medical officer to study the interests and welfare of his patients, and as a result of that study his care and treatment should be directed and carried out according to his judgment, or his services are of no avail. In this case the subject was a native of China and an American seaman, entitled to admission and treatment in a marine hospital of the United States, to which he was admitted upon application. He was saturated with opium, and was suffering from nine severe wounds on different parts of the body; and notwithstanding his sufferings he stubbornly refused the surgical treatment considered absolutely necessary to save his life. In the interest of humanity he was allowed to remain in hospital after refusing treatment, as he was not in a condition to care for himself outside, and he could only be sent to the almshouse as a last resort. He believed that it was better to die than to lose the use of a limb; and as it is held, I believe, that every sane person has an inherent right to care for his own body as he chooses, provided he is not legally held or under sentence of the law, this man, acting under that right, practically committed suicide in hospital; and he was allowed to do so, although it is a natural, if not a legal, duty to restrain one from ending his life either by violence or otherwise.

BURNS AND SCALDS.

Collective report of thirteen cases.

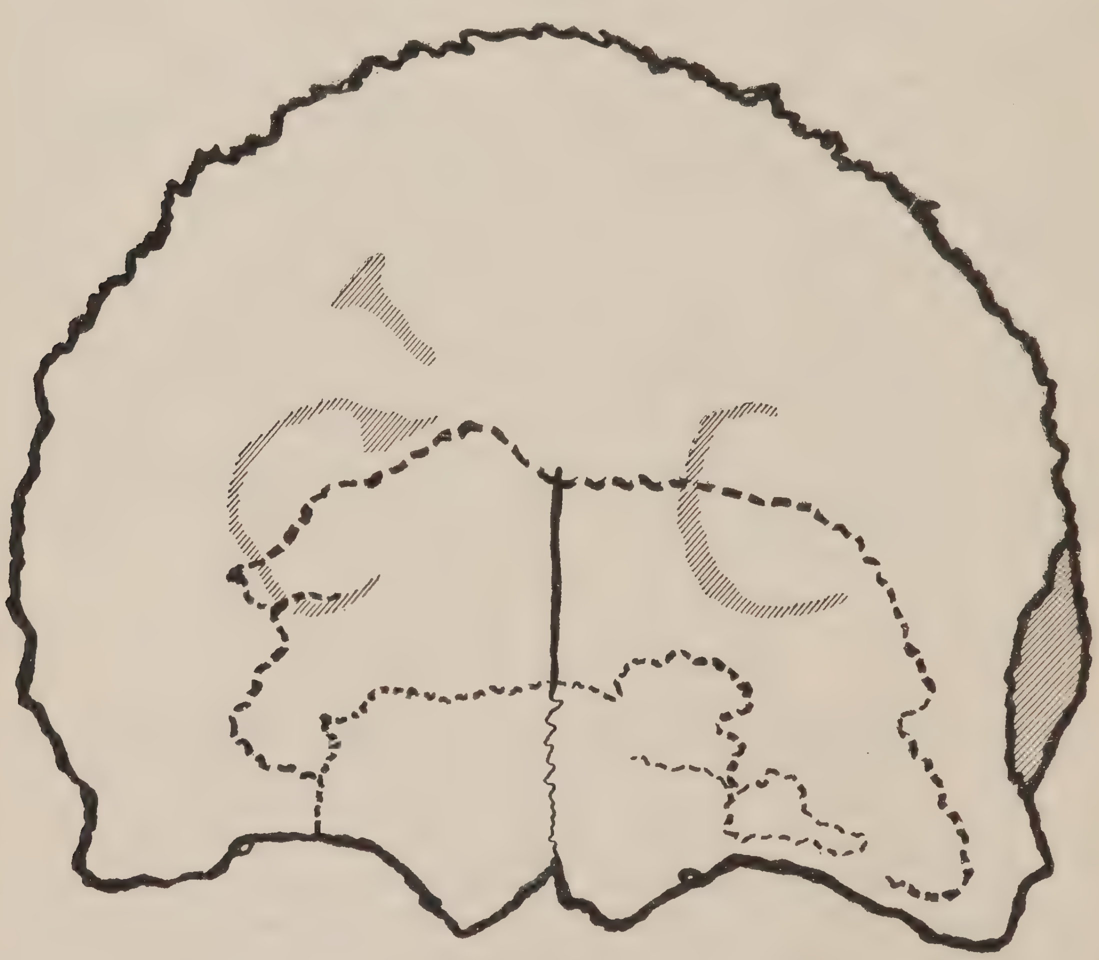
On Sunday morning, May 7, 1893, the steamer *Ohio*, while near Wolf Island, Mississippi, burst a steam flue and scalded 23 of the crew while collected in a narrow gangway eating breakfast, the mate jumping overboard and being drowned. At 2 o'clock of the same day they were brought to the Marine Hospital, Cairo, Ill., 5 dead and 8 in a dying condition. It being impossible to identify the dead, this necropsy is made collectively. The skin of face, neck, trunk, back of hands and arms was peeled off in great shreds, in almost every case more than one-third the surface of the body being affected. Mucous membranes of lips, mouth, and throat also affected. White lead and flour were used on board as a temporary dressing, adding to the difficulty of identification. Of the dead 12 were colored and 1 was white. On account of pressure of work of dressing and caring for the living, the internal organs were not examined, but all the bodies appeared to be those of well-developed, healthy roustabouts.

FRACTURE OF THE SKULL—CEREBRAL HEMORRHAGE.

O. J.; aged 21 years; nativity, Sweden; was admitted to Marine Hospital, Stapleton, Staten Island, N. Y., January 2, 1893, and died January 3.

History.—Patient was brought to the hospital in a semicomatose state. He had fallen off the hoops of the foremast on the 20th of December, 1892; when picked up was unconscious, but soon regained consciousness and became very much nauseated, vomiting several times; he then seemed to improve until the morning of the day of his admission to this hospital, when he complained of great pain in his head, and finally sank into the condition in which he was admitted. On admission ice was applied to his head and hot bottles to his feet, which seemed to improve his condition and also to relieve the cerebral congestion. Ol. Tiglii was administered. The patient, however, never rallied except for a short time on the morning of the 3d, and finally, after several minor convulsions in the afternoon of the 3d, died at 1:59 p. m.

Necropsy (*twenty-four hours after death*).—Body well nourished. No evidences of wound externally. *Rigor mortis* well marked. Hypostatic congestion posteriorly. An ecchymosis between scalp and skull, commencing at parieto-frontal suture and extending down to both frontal eminences. An irregular fracture, commencing over inner third of right orbit, curving upward and backward over frontal bone toward the left, and passing down to the left orbit, as seen in annexed diagram:



A triangular fracture commences at termination of last-described fracture over left orbit; the upper portion of this fracture is somewhat depressed, the lower portion of fragment prominent. A third horseshoe-shaped fracture commences over the middle of the right orbit, passes about 3 cm. above the first described, and ends over the middle of the left orbit. On removing the calvarium numerous fractures were seen over both orbital plates of frontal bone, one also running across the lesser left wing of the sphenoid; there is also a fracture of the greater wing, commencing at the outer border of the lesser wing, running from before backward to the jugular process of occipital bone. Brain very much congested; dura and brain substance under orbital prominences ruptured. A clot about 1 cm. in circumference is seen in second frontal convolution of left side. Other organs not examined.

COMPOUND FRACTURE OF THE SKULL—HERNIA CEREBRI—CEREBRAL ABSCESS.

A. A.; aged 32 years; nativity, Sweden; admitted to U. S. Marine Hospital, Key West, Fla., February 12, 1893; died May 10.

History.—The patient, injured the day before by being struck on the head by the iron bolt of a falling pile, was unconscious when admitted to hospital. Examination showed a compound fracture of the skull in the left parietal region. The scalp wound measured 6 cm. from before backward and 5 cm. from above downward. The upper limit of the wound was 2½ cm. below the sagittal suture; and its anterior limit the same distance behind the binauricular line. The injury to bone appeared to be of the kind termed "pond-fracture," and several of the fragments of bone being loose were removed. In extent the bone injury was as great as the superficial wound. The membranes of the brain were torn and there was laceration of the cerebral surface. The patient presented the typical aspect of concussion of the brain and, awaiting reaction, was treated by rest, the application of antiseptic dressings and the administration of stimulants. Reaction was unaccompanied by any marked symptoms of intracranial inflammation. There was some discharge of a seropurulent nature, and on several successive days numerous bits of bone were removed from the wound. In a fortnight the patient was able to sit up. The right arm and leg were completely paralyzed, but the movements of the facial muscles and tongue were normal. There was no ascertainable anæsthesia nor analgesia of the skin over the paralyzed members. At this period the patient appeared devoid of all intelligence. During his waking hours he sat quietly upon his bed, steadying himself in a sitting posture by the aid of his unparalyzed hand, and was unobservant of objects about him. He took nourishment when placed within his mouth and passed his urine and discharged his bowels at regular intervals, but without appearing to be sensible of the performance of these functions. In the meantime, the wound of the head became covered with granulations, discharging at intervals pieces of necrosed bone and sloughy shreds of dura mater. At the end of two months, the fungous mass protruded 2 cm. above the level of the surrounding scalp, was firm, vascular, pulsatile, and somewhat constricted at its base by an advancing line of new skin forming from the adjacent edges of the scalp. Later, this hernia cerebri became less prominent and compresses were used in its treatment. Six weeks from the time of the receipt of the injury, the surface of the granulations was on a level with the cranial bones. At this time the patient had regained intelligence to a slight degree and was able to make his wants known, but he was greatly emaciated and completely hemiplegic. He suffered from insomnia, which was overcome only by large doses of morphine sulphate. During the week preceding his death the patient was taken with diarrhea, which was not controlled by medicines administered for the purpose of checking the discharges from the bowels; nourishment was not retained by the stomach; prostration became marked; and on May 10 the patient died of asthenia.

Necropsy (*five hours after death*).—*Rigor mortis* slight. Emaciation extreme. The examination was confined to an inspection of the cranium and its contents. At the situation of the injury there was an opening in the scalp 4 by 4 cm. in size, surrounded by cicatrizing skin and presenting a sunken mass of granulation tissue. The edges of the wound were adherent to the bone for a distance of 2 cm. There was a loss of bone over an irregularly oval area of the same size and situation as the original wound and involving the left parietal bone. From the gap in the parietal bone two fissures started, one forward extending across the frontal boss to the situation of the frontal suture 3 cm. above the nasal eminence; the other taking a course downward on the great wing of the sphenoid bone as far as the pterygoid ridge. The fissures involved both plates of the skull. The brain, except in the immediate neighborhood of the wound, was anæmic. There was a loss of substance in the cerebrum involving the upper parts of the ascending frontal and ascending parietal convolutions, and an abscess, containing 10 c. c. of thin, yellowish-green pus, occupied a superficial situation in the upper part of the supramarginal convolution. The pus was inclosed in a firm pyogenic membrane, and the brain substance in the neighborhood of the wound and abscess was infiltrated with inflammatory products.

Remarks.—During the period of nearly three months which elapsed between the time the injury was received and the death of the patient there was at no time any symptom indicative of intracranial pressure, or of the accumulation of inflammatory products within the skull. The loss of brain substance due to traumatism amply accounted for the hemiplegia. There was no rigor, no appreciable elevation of temperature during the course of the patient's illness; and no motorial, sensory, or mental symptom was at any time added to those the patient presented on recovery from the immediate shock of the injury. The presence of the abscess found at the necropsy without the symptoms of antecedent inflammation seems to be explained by the small size of the collection of pus, by its chronicity as shown in the character of the pyogenic membrane, by its situation outside the motor area, and by the facilities for the transmission of pressure which were afforded by the traumatic breach in the bony incasement of the brain.

RUPTURE OF THE ILEUM.

Peritonitis.

F. M.; aged 45 years; nativity, Germany; admitted to the U. S. Marine Hospital, Port Townsend, Wash., May 11, 1893; died May 12.

History.—The patient walked into the hospital late in the afternoon of May 11, and from his staggering gait and incoherent language it was at first thought that he was drunk. After a little questioning he said that he came from Seattle on a passenger steamer, and that he had been hurt five days before, while working on a schooner, by falling off the pilot house and striking a log on deck. He said that he was unconscious for several hours after the fall. He was put to bed on the schooner and a doctor went aboard to see him. He claimed that nothing further was done for him. He felt that he was dangerously injured, and left the boat and came to this hospital. When admitted he was very weak. His tongue was heavily coated, the skin was cold and clammy, pulse rapid and bounding. There was considerable pain on pressure over abdomen, and, as no urine could be drawn off from the bladder, it was thought that that organ had been ruptured. His bowels had not moved since he was hurt, and an enema was given him. The pain was relieved by hypodermatic injection of morphine. He was very ill during the night and died early next day.

Necropsy (six hours after death).—Heart and lungs normal. The abdominal cavity was filled with fecal matter. The coils of intestines and omentum were adherent. In the fold of the great omentum was a large laceration and in the ileum there were two ruptures. These ruptures were about 10 cm. apart. The rents were large enough to insert the finger. Above the upper rent for a distance of 3 decimeters the intestine was gangrenous, due to strangulation caused by tight adhesions. The other organs were normal.

RUPTURE OF SPLEEN.

C. A.; aged 20 years; born in Norway; admitted to Marine Hospital, Stapleton, Staten Island, N. Y., September 23, 1892; died September 25.

For four days previous to admission patient had suffered from headache and general malaise. On physical examination the pulse was found to be 96, respiration 24, temperature 40.4° C. Lungs and heart were normal. No enlargement of liver or spleen was observed. Morning of the 25th temperature was normal and patient stated that he was feeling much better. Evening temperature, 39.4° C. At 9:30 p. m.

he arose, walked across the ward, and, on returning, instead of going to his bed, he raised a window and either jumped or fell 33 feet to the ground. When reached he was able to answer questions intelligently, but apparently had no knowledge of what had happened. Respiration was labored, pulse rapid and scarcely perceptible at the wrist. Countenance was pallid; extremities warm. He remained conscious for one hour, when respiration suddenly became stertorous and gasping; pulse imperceptible. Death occurred at 11 p. m.

Necropsy (*fourteen hours after death*).—Body well nourished. *Rigor mortis* marked. Slight hypostatic congestion posteriorly. Abrasions about 4 cm. in length and 1 cm. in width; one on outer side of left forearm, 5 cm. below outer condyle of humerus; another near middle of crest of left ileum, another near middle of crest of right ileum 2 cm. below it; also two small abrasions in the right lumbar region. Removal of the scalp disclosed an ecchymosis 4 cm. in diameter just posterior to the parietal eminence. Cortex of brain very little congested; otherwise normal. Heart presented no abnormalities. Lungs were somewhat anthracosed, and congested at their bases. Pleuræ nowhere adherent. Abdominal cavity was filled with blood. Stomach, liver, pancreas, and kidneys were normal. Spleen was congested and enlarged to twice its normal size. There were seven ruptures on the external surface, four of which extended two-thirds across the organ, while the other three were about 2 cm. in length. On the internal surface the continuity of the hilum was impaired and covered by a mass of coagulated blood. Bladder contained about 100 c. c. clear yellow urine.

FRACTURE OF THE OS PUBIS.

Urethra divided.

S. I.; aged 35 years; nativity, Norway; admitted to the marine ward of Providence Hospital, Seattle, Wash., February 25, 1893; died March 6.

History.—On the day before his admission to the hospital the patient slipped and fell while trucking a barrel of cement, which rolled against his left hip. He had severe pains in the hip and pelvis accompanied by retention of urine. A catheter was introduced with much difficulty and a large quantity of clear urine drawn off. No fracture of the pelvic bones was discovered at the time. He improved for several days, and for two days passed his urine without the use of the catheter. On the evening of March 4, he had a very severe chill and became unconscious. He died in twenty hours.

Necropsy (*eighteen hours after death*).—*Rigor mortis* well marked. There were no external marks of violence except a contused spot over crest of ilium on left side. There was also a swelling and redness of the perineum caused by the extravasation of the urine into the tissues. There was a comminuted fracture of the left horizontal ramus of the pubes. A sharp edge of a fragment which had been driven inward had completely severed the urethra just in front of the prostate. The pelvis contained many small abscesses caused by the extravasation of urine. All other organs were found normal.

FRACTURE OF THE RIGHT FEMUR AND LACERATION OF THE LIVER.

I. E.; colored; aged 36 years; a native of Tennessee; admitted to the Marine Hospital, St. Louis, Mo., on October 26, 1892; died October 29.

His family history was good. He had pleurisy one year ago. He has been a very intemperate man. Four days before admission, while completely drunk, he fell from a third-story window into an alley. He did not become conscious until he was in the City Hospital. He had some pain in his stomach, but not much in his right leg. His right femur was broken about the junction of the lowest and the third fourth; the fracture extended into the right kneejoint. The joint was not distended nor was it painful. There was a contusion in the right groin. His abdomen was distended a little. He had no fever. He was perfectly comfortable after the leg was dressed. He died very suddenly on October 29, 1892.

Necropsy (thirty-four hours after death).—Rigor mortis well marked. There was a fracture of the right femur. From a line perpendicular to Poupart's ligament at its center, there was a contused patch of skin and muscular tissue extending 7 cm. to the right and along the crest of the ilium. The posterior part of the right lung was congested and like a blood clot. Pericardium adherent to heart by old adhesion. There were three superficial tears in the liver. One was irregularly semicircular and 12 cm. deep, another 2 cm., and the third 4 cm. long, straight, and 5 cm. deep. There was a little free blood in different parts of the abdomen along the mesentery. Intestines smooth and glossy. The right femur was broken into four parts. The right kneejoint contained some blood.

COMPOUND COMMINUTED FRACTURE OF FEMUR.

Death from the anæsthetic.

J. F.; aged 32 years; nativity, Massachusetts; admitted to U. S. Marine Hospital, Cairo, Ill., December 16, 1892; died December 23.

History.—Patient was shot on the morning of the 16th December, 1892, with a .38-caliber revolver, the ball entering the left thigh just below the hip joint, and fracturing the femur. The ball lodged, but could not be located at the time by the probe. A counter incision was made on the underside of the thigh, and a drainage tube passed through. On the 22d the thigh was opened, pieces of the comminuted bone and the ball extracted, and it was found that owing to the position of the upper fragment amputation at the hip joint was demanded. The patient took the anæsthetic so badly that the operation could not be proceeded with. The wound was dressed temporarily, with the expectation of amputating the next day if his condition would allow of it. His temperature immediately dropped; but in spite of stimulants he rapidly failed, and died at 8 p. m. on the 23d.

Necropsy (fourteen hours after death).—Rigor mortis excessive. Heart weighed 405 grams, normal. Pericardial sac contained 15 c. c. clear serum. Left lung weighed 480 grams, the right 660 grams, both œdematous at bases. Stomach and intestines normal. Liver weighed 2,010 grams; stained but normal. Pancreas weighed 150 grams, normal. Left kidney weighed 180 grams, right the same; both normal. Spleen weighed 300 grams, normal. Brain and cord not examined. The femur was greatly comminuted, the fracture extending up into the great tuberosity. The upper fragment was tilted directly forward, so that nothing but amputation could have afforded relief.

STATISTICS

U. S. MARINE-HOSPITAL SERVICE.

STATISTICS OF U. S. MARINE-HOSPITAL SERVICE.

TABLE I.—COMPARATIVE TABLE OF NUMBER TREATED—1868 TO 1893.

The following tabular statement will serve to illustrate its growth since the reorganization of the Marine-Hospital Service in 1871:

Operations of the Marine-Hospital Service from July 1, 1868, to June 30, 1893.

Fiscal years.	Number of places at which relief was furnished.	Number of sick and disabled seamen furnished relief.
Prior to reorganization:		
1868	64	11,535
1869	64	11,356
1870	74	10,560
After reorganization:		
1871	72	14,256
1872	81	13,156
1873	91	13,529
1874	91	14,356
1875	94	15,009
1876	94	16,808
1877	100	15,175
1878	210	18,223
1879	210	20,922
1880	210	24,860
1881		32,613
1882		36,184
1883		40,195
1884		44,761
1885		41,714
1886		43,822
1887		45,314
1888		48,203
1889		49,518
1890		50,671
1891		52,992
1892		53,610
1893		53,317

TABLE II.—EXHIBIT OF OPERATIONS OF THE SERVICE DURING THE YEAR ENDED JUNE 30, 1893.

Ports.	Total number of seamen treated.	Patients in hospital July 1, 1892.	Admitted during the year.	Total treated in hospital.	Discharged.	Died.	Remaining in hospital June 30, 1893.	Number of days' relief in hospital.	Number of seamen furnished office relief.	Number of times relief was furnished.	Number of persons examined physically, including pilots.	Amount expended.	Tonnage tax collected.
Total	**53,317**	**907**	**13,950**	**14,857**	**13,514**	**478**	**865**	**398,745**	**38,460**	**58,448**	**3,070**	**$493,499.01**	**$539,233.14**
Albany, N. Y	3	1	2	3	3			76			27	176.00	
Alexandria, Va	93	1	6	7	6		1	99	86	237		260.95	39.45
Apalachicola, Fla	54		32	32	31	1		546	22	27		833.50	2,347.77
Ashland, Wis	85	5	35	40	38	1	1	874	45	45		902.10	
Ashtabula, Ohio	258	3	46	49	45	1	3	1,063	209	417		1,354.64	
Astoria, Oreg	56	3	28	31	30	1		861	25	48		1,070.95	4,683.63
Baltimore, Md	1,999	42	485	527	468	18	41	19,421	1,472	2,009	171	16,089.75	22,830.72
Bangor, Me	112	3	38	41	32	5	4	594	71	89	14	1,773.38	102.15
Barnstable, Mass., and subports	78								78	224		238.10	178.83
Bath, Me	89	3	30	33	29		4	765	56	136		1,085.00	129.09
Beaufort, N. C	28		2	2	2			41	26	84		203.70	
Beaufort, S. C	22		2	2	2			31	20	44		118.10	2,441.78
Belfast, Me	8		2	2	2			44	6	15		253.80	148.05
Bismarck, N. Dak	42		7	7	6		1	174	35	70		356.60	
Boston, Mass	3,132	60	1,027	1,087	1,007	29	51	26,858	2,045	2,563	219	23,170.81	46,829.46
Bridgeport, Conn	17	1	9	10	10			224	7	7		232.00	89.49
Bridgeton, N. J													87.66
Brownsville, Tex	2		2	2	2			46			11	130.00	4.32
Brunswick, Ga	193	1	84	85	76	3	6	1,846	108	135		2,003.05	5,850.84
Buffalo, N. Y	1,801	29	301	330	306	11	13	8,613	1,471	1,995	136	10,310.88	
Burlington, Iowa	11		11	11	10		1	322				296.10	
Burlington, Vt													392.94
Cambridge, Md	152		18	18	17	1		154	134	270		465.14	
Cairo, Ill	686	9	269	278	250	21	7	3,865	408	510	28	7,733.83	
Castine, Me	3								3	4		4.00	17.31
Cedar Keys, Fla	160								160	173		176.00	5.58
Charleston, S. C	1,198	11	189	200	183	7	10	4,050	998	1,329	36	6,531.44	3.477.18
Chattanooga, Tenn	32		9	9	8	1		198	23	126		429.36	
Chicago, Ill	3,140	52	674	726	657	20	49	22,470	2,414	2,928	148	23,031.83	10.92
Cincinnati, Ohio	1,405	12	380	392	343	17	32	10,574	1,013	1,483	7	12,935.30	
Cleveland, Ohio	2,039	32	319	351	315	13	23	9,980	1,688	2,491	41	9,358.72	117.54
Corpus Christi, Tex	16		9	9	8		1	132	7	14	16	491.70	
Darien, Ga	62								62	102		263.55	
Detroit, Mich	1,640	20	275	295	268	10	17	10,020	1,345	1,913	123	13,063.03	70.83
Dubuque, Iowa	76	3	46	49	46		3	720	27	37	17	1,231.15	
Duluth, Minn	233	3	40	43	39	2	2	1,045	190	243	32	1,348.16	144.87
Eastport, Me	15								15	24		21.00	1,076.00
Edenton, N. C	106		7	7	7			129	99	180		481.50	
Edgartown, Mass.*												60.00	303.90

Elizabeth City, N. C	50		1	1	1			20	49	83	145	265.00	
Ellsworth, Me	46	1	6	7	7			133	39	156	3	367.00	49.20
Erie, Pa	113	4	36	40	38		2	995	73	73		956.45	
Escanaba, Mich	185	3	50	53	46	3	4	1,455	132	145		2,051.12	
Eureka, Cal	70	2	36	38	37		1	746	32	40	1	1,119.00	60.75
Evansville, Ind	943	13	246	259	239	9	11	5,033	684	969	92	8,661.11	
Fall River, Mass													67.38
Fernandina, Fla	101		30	30	28		2	808	71	148		1,168.00	1,840.38
Fort Benton, Mont													151.34
Fredericksburg, Va	115	1	25	26	25		1	572	89	193		855.50	
Gallipolis, Ohio	315	5	139	144	139		5	2,974	171	339		2,937.24	
Galveston, Tex	536	3	147	150	138	4	8	3,225	386	549	167	5,962.50	12,326.69
Georgetown, D. C	173	1	54	55	51	2	2	1,172	118	179	8	880.20	64.26
Georgetown, S. C	138		21	21	19	1	1	257	117	265		600.60	8.82
Gloucester, Mass	339								339	385		672.37	630.03
Government Hospital for Insane, Washington, D. C	32	24	8	32	6	1	25	9,281				5,982.85	
Grand Haven, Mich	43	1	9	10	9		1	242	33	126	71	657.20	
Green Bay, Wis	40	2	13	15	15			369	25	25		698.92	
Hartford, Conn	8		8	8	8			199				199.00	3.30
Jacksonville, Fla	94	2	56	58	56		2	1,428	36	63	30	1,573.00	154.10
Keokuk, Iowa	5		4	4	4			68	1	1		34.00	
Key West, Fla	917	6	104	110	92	7	11	4,563	807	990	8	7,436.34	1,464.30
La Crosse, Wis	118	4	70	74	71	1	2	1,155	44	100	2	1,723.29	
Lewes, Del	29		27	27	25	2		480	2	2		555.60	
Little Rock, Ark	13								13	23	16	240.00	
Los Angeles, Cal													2,393.44
Louisville, Ky	1,074	15	329	344	316	8	20	8,874	730	1,102	21	10,358.61	
Ludington, Mich	115		9	9	9			126	106	137		366.50	
Machias, Me	57	3	24	27	27			686	30	63		906.53	139.05
Manistee, Mich	36	1	21	22	20		2	495	14	26	27	655.05	
Marblehead, Mass													55.56
Marquette, Mich	52		21	21	17	1	3	455	31	31		841.70	11.00
Marshfield, Oreg	135		15	15	13		2	560	120	253		1,283.70	
Memphis, Tenn	1,339	11	275	286	266	11	9	6,391	1,053	1,273	11	8,944.48	
Michigan City, Ind	27								27	58		152.30	
Milwaukee, Wis	868	16	354	370	346	5	19	8,582	498	682	66	8,270.70	
Mobile, Ala	810	11	234	245	222	10	13	6,209	565	704	19	11,857.43	8,247.99
Nashville, Tenn	158	1	22	23	23			485	135	278		929.30	
Newark, N. J													372.33
New Bedford, Mass	59		2	2	1	1		24	57	113		142.49	195.66
Newbern, N. C	189	4	70	74	68	2	4	1,623	115	234		2,075.25	9.36
Newburyport, Mass													29.28
New Haven, Conn	87	7	52	59	54	3	2	1,489	28	29	19	2,104.00	441.09
New London, Conn	176	2	123	125	112	1	12	2,726	51	68		2,543.30	108.54
Newport, Ark	35		18	18	18			254	17	20		513.00	
Newport, R. I	60		18	18	18			540	42	47	38	891.45	98.13
Newport News, Va	83								83	87		243.80	4,159.86
New Orleans, La	2,375	37	602	639	595	18	26	12,280	1,736	2,226	74	21,047.17	38,605.07
New York, N. Y	4,076	105	1,127	1,232	1,089	54	89	37,211	2,844	4,345	264	48,188.07	202,812.25

* Included in Vineyard Haven.

TABLE II.—EXHIBIT OF OPERATIONS OF THE SERVICE DURING THE YEAR ENDED JUNE 30, 1893—Continued.

Ports.	Total number of seamen treated.	Patients in hospital July 1, 1892.	Admitted during the year.	Total treated in hospital.	Discharged.	Died.	Remaining in hospital June 30, 1893.	Number of days' relief in hospital.	Number of seamen furnished office relief.	Number of times relief was furnished.	Number of persons examined physically, including pilots.	Amount expended.	Tonnage tax collected.
Norfolk, Va	1,673	33	409	442	397	21	24	9,723	1,231	1,594	127	$13,142.12	$2,239.29
Ogdensburg, N. Y	141		3	3	3			67	138	205		444.38	67.44
Oswego, N. Y	120	1	12	13	10	2	1	505	107	180	12	1,042.45	1,525.38
Pensacola, Fla	148	6	125	131	119	4	8	2,604	17	34	16	3,344.61	19,234.35
Perth Amboy, N. J													875.16
Philadelphia, Pa	1,795	27	620	647	594	18	35	12,808	1,148	1,823	249	20,575.63	60,187.22
Pittsburg, Pa	1,216	6	183	189	173	6	10	3,777	1,027	1,436	48	6,156.16	
Plattsburg, N. Y													2,717.94
Plymouth, Mass													2.94
Port Huron, Mich	149	3	14	17	16		1	343	132	406		466.74	
Portland, Me	817	10	197	207	190	4	13	7,175	610	756	80	9,447.82	5,995.46
Portland, Oreg	470	2	146	148	140	4	4	4,180	322	453	21	5,412.91	22.95
Portsmouth, N. H	20		20	20	19		1	467				767.00	29.10
Port Townsend, Wash	528	21	195	216	190	8	18	10,137	312	406		9,580.41	9,236.58
Providence, R. I	252	3	115	118	111	2	5	1,994	134	161		2,358.30	386.34
Richmond, Va	72	2	35	37	35		2	867	35	36	1	1,444.23	402.51
Rochester, N. Y													49.17
Rockland, Me	195	4	145	149	148		1	2,179	46	46		2,736.20	
Rome, Ga	15		4	4	4			47	11	31		215.70	
Sag Harbor, N. Y	14								14	217		217.00	
Saginaw, Mich	64	2	21	23	23			816	41	55		861.67	
Salem, Mass	24		1	1	1			44	23	24		27.62	239.31
St. Augustine, Fla													6.96
St. Louis, Mo	1,958	32	615	647	599	17	31	14,260	1,311	1,832	28	13,204.00	
St. Marys, Ga													47.43
St. Paul, Minn	19	2	17	19	17	1	1	574				889.00	32.94
St. Vincent, Minn													63.45
San Diego, Cal	166	2	88	90	84	1	5	2,961	76	476		4,210.25	3,377.39
Sandusky, Ohio	122	1	54	55	53	1	1	1,152	67	93		1,451.67	
San Francisco, Cal	3,363	111	856	967	824	46	97	43,729	2,396	5,896	241	33,575.34	41,174.83
San Pedro, Cal	197	10	106	116	109		7	3,833	81	176		4,405.60	
Sault Ste. Marie, Mich	467	12	101	113	99	4	10	1,755	354	393		2,157.85	
Savannah, Ga	1,071	7	291	298	281	9	8	6,327	773	908	20	9,441.06	11,595.60
Seattle, Wash	581	7	116	123	108	5	10	3,599	458	833	74	3,344.78	
Shieldsboro, Miss													8,488.00
Shreveport, La	160		13	13	13			194	147	1,218		983.74	
Sitka, Alaska	17		6	6	4	1	1	130	11	25		1,137.00	455.25
Solomons, Md	417		19	19	18	1		250	398	471		715.81	
Somers Point, N. J	1								1	3		3.00	
Stonington, Conn													36.00
Superior, Wis	35		5	5	5			59	30	36		289.59	

Tacoma, Wash	21	1	19	20	20			550	1	1		624.31	
Tampa, Fla	20		2	2	2			9	18	19		183.87	1,350.66
Tappahannock, Va.	223	1	60	61	60		1	785	162	418		1,805.00	
Toledo, Ohio	247	6	104	110	105	1	4	1,951	137	200	13	1,877.10	
Tuckerton, N. J.	11	1		1	1			314	10	52	17	702.48	
Vicksburg, Miss	74	3	58	61	58	2	1	1,063	13	16		1,580.76	
Vineyard Haven, Mass	295	5	110	115	106	3	6	2,588	180	187		5,828.74	
Waldoboro, Me													982.32
Washington, D. C												14,022.01	
Wheeling, W. Va.	76		34	34	31	1	2	673	42	77		809.35	
Wilmington, Del.	1								1	1			332.91
Wilmington, N. C.	579	7	127	134	121	6	7	3,567	445	522	15	5,613.55	2,028.18
Wiscasset, Me	5		1	1		1		6	4	90			203.55
Yaquina, Oreg.												155.93	
Cape Charles Quarantine	72		66	66	66			322	6	15		23,738.87	
Gulf Quarantine	27		17	17	15	1	1	96	10	15		15,647.76	
Key West Quarantine	93		26	26	25	1		235	67	108		11,413.16	
San Francisco Quarantine	1		1	1		1		10				15,940.05	
South Atlantic Quarantine	5		3	3	3				2	2		11,149.49	

TABLE III.—SUMMARY OF PHYSICAL EXAMINATIONS OF SEAMEN MADE BY MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE FOR THE YEAR ENDED JUNE 30, 1893.

Summary of examinations and causes of rejection.	Total.	Pilots.	Revenue Marine.	Merchant Marine.	Life-Saving Service.
Summary of examinations:					
Total number examined	3,070	1,353	279	343	1,095
Number passed	2,949	1,305	257	333	1,054
Number rejected	121	48	22	10	41
Causes of rejection:					
Malarial fever			1		1
Syphilis		2	1	1	3
Gonorrhœa		3	1		
Tubercle of lung					4
Epilepsy		1			
Myopia			1	5	1
Color blindness		34	2		7
Imperfect vision			1		2
Suppurative inflammation of middle ear			1		
Perforation of ear drum					1
Deafness			1		1
Valvular disease of heart		1	1	2	3
Hypertrophy of heart			2		1
Irregular action of heart					3
Varicose veins		1	2		2
Bronchitis, chronic					1
Original dullness, apices, both lungs					1
Hypertrophy of tonsils			2		
Catarrh, throat and nose					1
Tonsilitis, chronic			1	1	
Hernia, right, inguinal			1		1
Fistula in ano		1			1
Stricture, urethra, organic		1	1		2
Ulcer of penis		3	1		4
Varicocele		1		1	1
Insufficient chest expansion			1		
Stature less than 5 feet			1		

TABLE IV.—STATEMENT, BY DISTRICTS, OF THE NUMBER OF PATIENTS TREATED DURING THE YEAR ENDED JUNE 30, 1893.

Districts.	Total.	Patients in hospital July 1, 1892.	Admitted during the year.	Total number treated in hospital.	Discharged.	Died.	Patients in hospital June 30, 1893.	Number of days hospital relief was furnished.	Number of seamen furnished office relief.
Grand total	**53,317**	**907**	**13,950**	**14,857**	**13,514**	**478**	**865**	**398,745**	**38,460**
North Atlantic	5,606	92	1,736	1,828	1,698	45	85	44,097	3,778
Middle Atlantic	6,218	144	1,968	2,112	1,896	78	138	55,527	4,106
South Atlantic	8,863	137	1,999	2,136	1,927	72	137	62,451	6,727
The Gulf	5,213	63	1,274	1,337	1,226	44	67	29,855	3,876
The Ohio	5,219	52	1,342	1,394	1,272	42	80	32,588	3,825
The Mississippi	4,376	64	1,390	1,454	1,345	53	56	28,846	2,922
The Great Lakes	12,020	196	2,517	2,713	2,482	75	156	73,432	9,307
The Pacific	5,604	159	1,611	1,770	1,559	66	145	71,286	3,834
The quarantine stations	198		113	113	109	3	1	663	85

TABLE V.—RATIO OF PATIENTS TREATED IN HOSPITAL IN EACH DISTRICT.

Districts.	Per cent of total number of patients.	Districts.	Per cent of total number of patients.
North Atlantic	32.61	The Mississippi	33.23
Middle Atlantic	33.96	The Great Lakes	22.57
South Atlantic	24.10	The Pacific	31.58
The Gulf	25.65	The quarantine stations	56.57
The Ohio	26.71		

TABLE VI.—AVERAGE DURATION OF TREATMENT IN HOSPITAL IN EACH DISTRICT.

Districts.	Average number of days relief furnished to each patient.	Districts.	Average number of days relief furnished to each patient.
North Atlantic	24. 12	The Mississippi	19. 84
Middle Atlantic	26. 29	The Great Lakes	27. 07
South Atlantic	29. 23	The Pacific	40. 27
The Gulf	22. 33	The quarantine stations	5. 87
The Ohio	23. 37		

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Grand total of all cases	**907**	**13,950**	**8,876**	**4,323**	**315**	**478**	**865**	**38,460**	**53,317**
GENERAL DISEASES	377	6, 334	3, 874	2, 114	132	228	363	17, 972	24, 683
LOCAL DISEASES	396	5, 488	3, 423	1, 728	161	207	365	17, 479	23, 363
POISONS AND POISONED WOUNDS	......	21	15	3	2	....	1	44	65
INJURIES AND AMPUTATIONS	134	2, 107	1, 564	478	20	43	136	2, 965	5, 206

NORTH ATLANTIC.

TOTAL CASES	**92**	**1,736**	**1,107**	**564**	**27**	**45**	**85**	**3,778**	**5,606**
General Diseases	**41**	**690**	**413**	**256**	**11**	**25**	**26**	**1,537**	**2,268**
Cowpox	......	......	......	......	......	....	......	88	88
Measles	......	12	12	......	......	....	......	2	14
Influenza	......	19	12	7	......	....	......	40	59
Mumps	......	......	......	......	......	....	......	2	2
Simple continued fever	1	1	2	......	......	....	......	1	3
Enteric fever	5	41	33	1	1	8	3	3	49
Epidemic diarrhea	......	......	......	......	......	....	......	1	1
Dysentery	......	7	7	......	......	....	......	11	18
Malarial intermittent fever	2	132	118	12	......	1	3	76	210
Malarial remittent fever	......	15	13	......	......	....	2	9	24
Malarial cachexia	......	10	6	3	......	....	1	14	24
Beri-beri	......	1	......	......	......	1	......	1	2
Erysipelas, simple	......	6	4	2	......	....	......	4	10
Syphilis:									
Primary	......	6	5	1	......	....	......	32	38
Secondary	6	90	10	80	1	1	4	238	334
Gonorrhœa	4	73	52	21	......	....	4	472	549
Animal parasites	......	......	......	......	......	....	......	2	2
Vegetable parasites	......	......	......	......	......	....	......	1	1
Scurvy	......	1	1	......	......	....	......	......	1
Alcoholism	......	11	7	2	2	....	......	11	22
Delirium tremens	1	2	1	2	......	....	......	......	3
Debility	......	6	1	4	......	....	1	108	114
Rheumatic fever	1	16	14	3	......	....	......	8	25
Rheumatism	10	166	108	61	2	....	5	344	520
Osteo-arthritis	1	......	......	1	......	....	......	1	2
Non-malignant new growth		5	4	1	......	....	......	21	26
Malignant new growth	......	1	......	......	......	1	......	4	5
Tubercle	9	64	1	52	5	12	3	37	110
Scrofula	......	......	......	......	......	....	......	2	2
Leprosy	......	1	......	......	......	1	......	......	1
Purpura	......	1	1	......	......	....	......	1	2
Anæmia	......	3	1	2	......	....	......	3	6
Diabetes mellitus	1	......	......	1	......	....	......	......	1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

NORTH ATLANTIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases	**36**	**795**	**504**	**245**	**15**	**19**	**48**	**1,851**	**2,682**
DISEASES OF THE NERVOUS SYSTEM	3	34	10	19	1	2	5	86	123
Congestion, cerebral		1		1				2	3
Anæmia, cerebral		1		1					1
Inflammation:									
Of cerebral membranes		1				1			1
Of spinal cord and its membranes								1	1
Myelitis		2					2		2
Neuritis		2	1				1		2
Progressive muscular atrophy	1				1				1
Locomotor ataxy	1	3		4				1	5
Apoplexy								2	2
Paralysis		1		1					1
Hemiplegia		3		1		1	1	1	4
Local paralysis		4	1	3				4	8
Spasm of muscle								1	1
Hyperæsthesia		1		1					1
Neuralgia		1	1					41	42
Facial		4	4					11	15
Sciatica		7	2	4			1	6	13
Megrim		1	1					12	13
Epilepsy	1	2		3				4	7
MENTAL DISEASES	2	9	1	5	2		3	10	21
Hypochondriasis		6	1	4	1			10	16
Insanity	1						1		1
Melancholia	1						1		1
Dementia		3		1	1		1		3
DISEASES OF THE EYE		17	8	7			2	66	83
Conjunctivitis		8	5	2			1	44	52
Ulcer of cornea		1		1					1
Opacity of cornea								3	3
Iritis		3	1	2				4	7
Choroiditis								2	2
Glaucoma synechia		1		1					1
Cataract		1					1		1
Ametropia		1		1					1
Day blindness								2	2
Amblyopia								2	2
Inflammation of lachrymal gland		1	1					2	3
Dacryocystitis								1	1
Stricture of nasal duct		1	1						1
Hæmatoma								1	1
Blepharitis								2	2
Stye								2	2
Ptosis								1	1
DISEASES OF THE EAR		6	4	2				24	30
Acute inflammation of the external meatus								1	1
Abscess of the external meatus								2	2
Accumulation of wax								4	4
Inflammation of the middle ear		6	4	2				16	22
Perforation of membrana tympani								1	1
DISEASES OF THE NOSE		1		1				34	35
Nasal catarrh		1		1				29	30
Ozæna								5	5
DISEASES OF THE CIRCULATORY SYSTEM	1	20	1	11		4	5	27	48
Endocarditis		1		1					1
Valvular disease:									
Aortic	1	9		5		3	2		10
Mitral		4		3			1	8	12
Pulmonic								2	2
Hypertrophy of heart								2	2

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

NORTH ATLANTIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE CIRCULATORY SYSTEM—Continued.									
Dilatation of heart								1	1
Angina pectoris		1		1					1
Palpitation and irregular action of heart.								7	7
Aneurism of arteries		4		1		1	2		4
Phlebitis		1	1						1
Varix								7	7
DISEASES OF THE RESPIRATORY SYSTEM	4	115	79	31	2	4	3	385	504
Laryngitis:									
Acute		1	1					15	16
Catarrhal								2	2
Bronchitis:									
Acute	2	52	43	9			2	250	304
Chronic		20	9	9	1	1		61	81
Catarrhal		2	2					12	14
Spasmodic asthma	1	10	3	8				16	27
Passive congestion of lung								1	1
Hemorrhage of lung		4	2	1	1			1	5
Pneumonia	1	10	8			3		2	13
Pneumonic phthisis, chronic		1		1				3	4
Atelectasis		1	1						1
Pleurisy:									
Acute		9	9					15	24
Chronic		3	1	1			1	6	9
Empyema		2		2				1	3
DISEASES OF THE DIGESTIVE SYSTEM	5	165	114	44	4	3	5	486	656
Stomatitis								2	2
Ulcerative stomatitis								2	2
Abscess of the antrum		1		1					1
Ulceration of the dental pulp								1	1
Caries of dentine and cementum								6	6
Abscess of dental periosteum								2	2
Ulceration of gums and alveoli								1	1
Caries of the alveoli								3	3
Toothache								14	14
Inflammation of the tongue								1	1
Ulcer of the tongue								4	4
Hypertrophy of tonsils								1	1
Elongated uvula								2	2
Sore throat		2	1				1	24	26
Quinsy		4	4					5	9
Follicular tonsilitis		17	14	2			1	28	45
Abscess of salivary glands		2	2						2
Follicular inflammation of the pharynx		10	8	1	1			20	30
Inflammation of the stomach	1	5	4	2				18	24
Ulceration of the stomach	1					1			1
Dilatation of the stomach		1	1						1
Dyspepsia		23	9	12	2			114	137
Pyrosis								1	1
Inflammation of the intestines:									
Catarrhal		19	16	1			2	18	37
Ulcerative		5	4	1				4	9
Tympanites								1	1
Obstruction of the intestines		3	2			1		1	4
Hernia								56	56
Diarrhœa	1	33	24	8	1		1	67	101
Constipation		1	1					40	41
Colic		3	2			1		8	11
Abcess of the rectum		3	1	2				1	4
Piles:									
Internal	1	9	5	5				16	26
External		3	2	1				12	15

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES, AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

NORTH ATLANTIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE DIGESTIVE SYSTEM—Continued.									
Fistula in ano	1	4	4	1				1	6
Fissure of the anus		2	2						2
Congestion of the liver		3	3					1	4
Hepatitis								1	1
Cirrhosis of liver		3		3				1	4
Jaundice		1	1					2	3
Inflammation of hepatic ducts and gall bladder		3	2	1				3	6
Gallstones		1		1					1
Biliary colic								2	2
Peritonitis		4	2	2				2	6
DISEASES OF THE LYMPHATIC SYSTEM	6	62	44	20	2		2	69	137
Congestion of the spleen								1	1
Hypertrophy of lymph glands	2	6	6	2				9	17
Inflammation of lymph vessels								1	1
Inflammation of lymph glands	1	20	12	6	2		1	41	62
Suppuration of lymph glands	3	36	26	12			1	17	56
DISEASES OF THE THYROID BODY		1					1		1
Inflammation		1					1		1
DISEASES OF THE SUPRA-RENAL CAPSULES		1					1		1
Addison's disease							1		1
DISEASES OF THE URINARY SYSTEM	2	19	3	13		5		45	66
Acute nephritis		2		1		1		2	4
Bright's disease	1	9		6		4		6	16
Calculus in kidney								3	3
Diabetes insipidus	1			1				1	2
Hæmaturia								1	1
Lithuria								1	1
Inflammation of bladder:									
Acute		4	2	2				6	10
Subacute								1	1
Chronic		3	1	2				15	18
Calculus of bladder								1	1
Irritability of bladder		1		1				2	3
Retention of urine								2	2
Incontinence of urine								4	4
DISEASES OF THE GENERATIVE SYSTEM	8	162	119	41	2		8	261	431
Urethritis								5	5
Gleet								21	21
Stricture of urethra:									
Organic	2	39	19	17	1		4	56	97
Spasmodic								1	1
Urinary fistula		1		1					1
Hypertrophy of prostate gland								1	1
Acute inflammation of prostate gland		1		1				1	2
Chronic inflammation of prostate gland		1		1				3	4
Inflammation of the penis								1	1
Inflammation of glans penis								7	7
Abscess of penis		2	2						2
Ulcer of penis	3	78	66	11			4	117	198
Phimosis		1	1					1	2
Paraphimosis		2	2					3	5
Chordee								1	1
Hydrocele of spermatic cord								2	2
Varicocele		4	2	1	1			5	9
Hydrocele of tunica vaginalis		2		2				10	12
Orchitis:									
Acute	2	11	11	2				13	26
Chronic								2	2

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

NORTH ATLANTIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE GENERATIVE SYSTEM—Continued.									
Epididymitis		19	15	4				5	24
Spermatorrhœa	1			1				5	6
Impotence								1	1
Inflammation of the breast		1	1						1
DISEASES OF THE ORGANS OF LOCOMOTION		32	15	13	1	1	2	19	51
Periostitis		2	1		1			1	3
Chronic abscess of bones		1	1					1	2
Necrosis		1		1					1
Ununited fracture, or false joint								1	1
Drops of joints		1		1					1
Synovitis:									
Acute		8	4	2			2	4	12
Chronic		3	2	1				5	8
Ankylosis		1		1				1	2
Dislocation of articular cartilage		1		1					1
Caries and necrosis of spine		3		2		1			3
Inflammation of muscles								1	1
Atrophy of muscles								1	1
Inflammation of tendons		1		1					1
Talipes valgus		2		2					2
Inflamed bursa		5	5					3	8
Bursal abscess		1	1					1	2
Thecal abscess		1	1						1
Bunion		1		1					1
DISEASES OF THE CONNECTIVE TISSUE	2	43	27	12			6	54	99
Œdema								2	2
Inflammation		14	9	5				21	35
Abscess	2	29	18	7			6	31	62
DISEASES OF THE SKIN	2	102	73	26			5	239	343
Erythema								1	1
Urticaria								2	2
Eczema		2	1				1	30	32
Impetigo								2	2
Pityriasis								1	1
Psoriasis		3		3				3	6
Herpes		1	1					15	16
Zona								3	3
Acne								4	4
Sycosis								2	2
Steatorrhœa								1	1
Ichthyosis								1	1
Frostbite		26	23	2			1	22	48
Ulcer	2	29	18	12			1	87	118
Fissures								4	4
Boil		22	17	4			1	35	57
Carbuncle		2	1	1				8	10
Gangrene		3	1	1			1		3
Whitlow		10	7	3				12	22
Onychia		1	1						1
Corn								1	1
Wen		3						3	6
Pruritus								2	2
PARASITIC DISEASES OF THE SKIN	1	6	6		1			46	53
Ringworm								3	3
Itch	1	6	6		1			40	47
Phthiriasis								2	2
Unclassified								1	1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

NORTH ATLANTIC—Continued.

DISEASES.	NUMBER OF CASES.								
			Discharged.						
	Remaining under treatment from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
Poisons								8	8
Iodism								1	1
Vegetable poisons								7	7
POISONED WOUNDS								1	1
Venomous animals								1	1
Injuries	**15**	**251**	**190**	**63**	**1**	**1**	**11**	**381**	**647**
GENERAL INJURIES	1	17	14	3			1	40	58
Burns and scalds		12	8	3			1	12	24
Effects of cold								20	20
Heat-stroke								1	1
Multiple injury	1	4	5					6	11
Asphyxia		1	1						1
Shock								1	1
LOCAL INJURIES	14	234	176	60	1	1	10	341	589
Rupture of veins		1		1					1
Strain of muscles		2		1			1	12	14
Strain of tendons								1	1
Foreign body in subcutaneous tissue								1	1
Contusion of scalp								1	1
Scalp wound:									
Bone not exposed		3	3					11	14
Bone exposed		1	1					1	2
Fracture of the vault of the skull		1	1					1	2
Concussion of brain	1		1						1
Contusion of face		3	1	2				6	9
Wound of face and mouth		9	7	2				7	16
Fracture of facial bones	1	1	1			1		2	4
Dislocation of the lower jaw								1	1
Foreign body in cornea or conjunctiva								4	4
Wound of eyelid		1	1					2	3
Wound of the cornea								1	1
Wound of the parts within the orbit		1		1					1
Wound of neck								1	1
Foreign body in the pharynx								1	1
Contusion of the chest		5	3	2				23	28
Fracture of the ribs	1	11	9	3				8	20
Wound of parietes of chest		2	1				1		2
Contusion of back		12	11	1				15	27
Sprain of back		7	7					11	18
Wound of back								1	1
Concussion of cord								1	1
Compression of cord without fracture		1		1					1
Contusion of abdomen		1	1					1	2
Contusion of the pelvis								1	1
Contusion of the urethra, perineum, scrotum, and penis								1	1
Wound of the urethra, perineum, scrotum, and penis		1	1						1
Contusion of upper extremities	2	11	8	4			1	35	48
Sprain of the shoulder		1	1					3	4
Sprain of the elbow		1	1					4	5
Sprain of the wrist		4	3	1				7	11
Sprain of the fingers		2	1	1				1	3
Wound of the upper extremities	3	45	33	14			1	89	137
Fracture of the clavicle		4	3	1				2	6
Fracture of the scapula								1	1
Fracture of the radius		5	3	2				1	6
Fracture of the ulna		1	1						1
Fracture of both bones of forearm	1	3	3	1					4
Fracture of carpus, metacarpus, and phalanges		4	3	1				4	8
Dislocation of the scapula								1	1
Dislocation of the humerus		6	5	1				7	13

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

NORTH ATLANTIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Injuries—Continued.									
LOCAL INJURIES—Continued.									
Dislocation of the radius	......	2	2	......	......	....	......	......	2
Dislocation of the ulna	......	......	......	......	......	....	......	1	1
Dislocation of the radius and ulna	......	1	......	......	......	....	1	......	1
Dislocation of the carpus	......	1	1	......	......	....	......	1	2
Dislocation of the phalanges of fingers	......	1	1	......	......	....	......	......	1
Contusion of the lower extremities	1	27	22	5	......	....	1	29	57
Sprain of the hip	......	1	......	1	......	....	......	1	2
Sprain of the knee	......	3	3	......	......	....	......	3	6
Sprain of the ankle	2	10	6	5	......	....	1	12	24
Sprain of the foot	......	......	......	......	......	....	......	1	1
Wound of the lower extremities	1	17	14	3	......	....	1	13	31
Fracture of patella	......	4	2	2	......	....	......	2	6
Fracture of leg, both bones	1	8	5	2	......	....	2	2	11
Fracture of tibia alone	......	2	......	1	1	....	......	......	2
Fracture of fibula alone	......	5	4	1	......	....	......	2	7
Fracture of tarsus	......	1	1	......	......	....	......	......	1
Dislocation of the foot at the ankle	......	......	......	......	......	....	......	1	1
Dislocation of the metatarsus and phalanges	......	1	1	......	......	....	......	2	3
AMPUTATIONS	......	......	......	......	......	....	......	1	1
Amputation of fingers	......	......	......	......	......	....	......	1	1

MIDDLE ATLANTIC.

TOTAL CASES	**144**	**1,968**	**1,316**	**543**	**37**	**78**	**138**	**4,106**	**6,218**
General Diseases	**59**	**848**	**541**	**257**	**18**	**31**	**60**	**1,816**	**2,723**
Smallpox	......	1	1	......	......	....	......	......	1
Cow-pox	......	1	......	1	......	....	......	......	1
Chicken-pox	......	3	2	1	......	....	......	......	3
Measles	1	5	4	1	......	....	1	......	6
Epidemic rose rash	......	1	1	......	......	....	......	......	1
Typhus	......	1	1	......	......	....	......	......	1
Influenza	......	7	5	2	......	....	......	29	36
Mumps	......	1	1	......	......	....	......	......	1
Diphtheria	......	4	4	......	......	....	......	......	4
Enteric fever	3	43	40	......	......	2	4	2	48
Dysentery	......	23	19	3	......	1	......	9	32
Malarial intermittent fever	7	209	177	28	1	2	8	262	478
Malarial remittent fever	......	8	5	......	......	2	1	3	11
Malarial cachexia	1	6	3	3	......	....	1	23	30
Phagedæna	1	......	......	......	......	....	1	......	1
Erysipelas:									
Simple	......	14	14	......	......	....	......	4	18
Phlegmonous	......	1	1	......	......	....	......	......	1
Syphilis:									
Primary	5	60	45	17	1	....	2	25	90
Secondary	7	98	11	87	1	....	6	410	515
Gonorrhœa	1	39	19	17	......	....	4	503	543
Animal parasites	......	3	2	1	......	....	......	3	6
Scurvy	......	1	......	1	......	....	......	1	2
Alcoholism	......	17	15	2	......	....	......	14	31
Cleft palate	......	......	......	......	......	....	......	1	1
Debility	......	5	5	......	......	....	......	81	86
Rheumatic fever	3	35	27	5	1	....	5	9	47
Rheumatism	17	180	129	46	6	1	15	370	567
Gout	......	......	......	......	......	....	......	1	1
Osteo-arthritis	1	1	......	1	......	....	1	......	2
Cysts	......	2	1	......	1	....	......	......	2
Non-malignant new growth	1	5	6	......	......	....	......	9	15

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

MIDDLE ATLANTIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
General Diseases—Continued.									
Malignant new growth		2	1			1			2
Tubercle	11	67	1	40	5	21	11	49	127
Scrofula		1			1				1
Purpura		1				1			1
Anæmia		2	1	1				8	10
Diabetes mellitus		1			1				1
Local Diseases	**69**	**872**	**577**	**241**	**17**	**44**	**62**	**1,928**	**2,869**
DISEASES OF THE NERVOUS SYSTEM	6	42	19	16	1	3	9	68	116
Hemorrhage, cerebral	1	1					2		2
Inflammation of brain and its membranes		2				2			2
Neuritis		2	2						2
Sclerosis	1	2		2			1		3
Progressive muscular atrophy	1						1		1
Spastic spinal paralysis	1						1		1
Locomotor ataxia	2	2		1		1	2		4
Paralysis		1		1				1	2
Hemiplegia		3		2			1	1	4
Local paralysis		2		2					2
Glosso-labio-pharyngeal paralysis		1		1					1
Aphasia		1	1					1	2
Hyperæsthesia								1	1
Neuralgia		6	6					44	50
Facial		2	2					3	5
Sciatica		12	8	3			1	6	18
Vertigo								5	5
Epilepsy		5		4	1			6	11
MENTAL DISEASES	1	5	2	2	1		1	1	7
Insanity	1			1					1
Mania		3	1	1	1				3
Melancholia		2	1				1		2
Dementia								1	1
DISEASES OF THE EYE	1	13	7	7				31	45
Conjunctivitis		6	5	1				24	30
Pterygium		1		1					1
Ulcer of cornea		1		1					1
Iritis	1	3	2	2				6	10
Atrophy of optic disc or papilla		1		1					1
Opacity of vitrous		1		1					1
Stye								1	1
DISEASES OF THE EAR		7	1	5	1			20	27
Inflammation of the external meatus, acute								5	5
Accumulation of wax								3	3
Inflammation of the middle ear		5	1	3	1			11	16
Obstruction of Eustachian tube		1		1					1
Deafness		1		1				1	2
DISEASES OF THE NOSE		1	1					40	41
Inflammation								1	1
Abscess		1	1					38	39
Necrosis								1	1
DISEASES OF THE CIRCULATORY SYSTEM	2	42	2	33		3	6	40	84
Pericarditis		1		1					1
Valvular disease:									
Aortic	1	14		13		1	1	3	18
Mitral	1	21	2	15		2	3	25	47
Hypertrophy of heart								2	2
Angina pectoris		1		1				1	2
Palpitation and irregular action of heart		3		2			1	5	8

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

MIDDLE ATLANTIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE CIRCULATORY SYSTEM—Continued.									
Aneurism of arteries	......	1	......	......	......	....	1	......	1
Varix	......	1	......	1	......	....	......	4	5
DISEASES OF THE RESPIRATORY SYSTEM	10	184	96	55	8	23	12	437	631
Laryngitis:									
Acute	......	6	5	......	......	....	1	11	17
Chronic	......	1	......	......	......	....	1	......	1
Bronchitis:									
Acute	2	51	44	5	2	....	2	346	399
Chronic	1	35	8	23	2	....	3	45	81
Catarrhal	......	......	......	......	......	....	......	1	1
Spasmodic asthma	......	7	1	5	......	1	......	8	15
Pneumonia	......	38	21	......	......	15	2	......	38
Pneumonic phthisis, chronic	4	18	1	9	3	7	2	7	29
Emphysema	......	4	......	4	......	....	......	1	5
Hydrothorax	......	1	......	......	1	....	......	......	1
Pleurisy:									
Acute	2	16	15	3	......	....	......	12	30
Chronic	......	7	......	6	......	....	1	6	13
Empyema	1	......	1	......	......	....	......	......	1
DISEASES OF THE DIGESTIVE SYSTEM	7	159	118	28	1	6	13	518	684
Ulcer of the lips	......	......	......	......	......	....	......	1	1
Stomatitis	......	1	1	......	......	....	......	1	2
Abscess of the antrum	......	......	......	......	......	....	......	1	1
Caries of dentine and cementum	......	......	......	......	......	....	......	3	3
Abscess of dental periosteum	......	1	......	......	......	....	1	2	3
Inflammation of gums and alveoli	......	......	......	......	......	....	......	1	1
Ulceration of gums and alveoli	......	......	......	......	......	....	......	1	1
Toothache	......	......	......	......	......	....	......	1	1
Abscess of the tongue	......	1	1	......	......	....	......	......	1
Hypertrophy of tonsils	......	......	......	......	......	....	......	1	1
Elongated uvula	......	......	......	......	......	....	......	1	1
Sore throat	......	3	2	1	......	....	......	13	16
Quinsy	......	......	......	......	......	....	......	1	1
Follicular tonsilitis	1	19	19	1	......	....	......	32	52
Salivation	......	1	1	......	......	....	......	......	1
Follicular inflammation of pharynx	......	6	6	......	......	....	......	40	46
Inflammation of the stomach	1	14	8	4	......	3	......	8	23
Ulceration of the stomach	......	2	......	2	......	....	......	1	3
Dyspepsia	1	10	8	3	......	....	......	97	108
Inflammation of the intestines:									
Catarrhal	......	3	3	......	......	....	......	40	43
Ulcerative	......	4	2	1	......	....	1	5	9
Hernia	......	11	5	5	......	....	1	110	121
Diarrhœa	1	33	29	2	......	1	2	75	109
Constipation	1	6	6	......	......	....	1	45	52
Colic	......	1	1	......	......	....	......	......	1
Piles:									
Internal	......	9	5	4	......	....	......	8	17
External	1	10	8	2	......	....	1	18	29
Prolapsus of the rectum	1	1	1	......	......	....	1	......	2
Fistula in ano	......	8	5	1	......	....	2	3	11
Pruritus ani	......	......	......	......	......	....	......	1	1
Conjestion of the liver	......	3	1	1	......	....	1	5	8
Hepatitis	......	1	1	......	......	....	......	......	1
Cirrhosis of liver	......	3	......	......	1	1	1	......	3
Jaundice	......	4	3	......	......	....	1	3	7
Inflammation of hepatic ducts and gall-bladder	......	1	1	......	......	....	......	......	1
Ascites	......	1	......	1	......	....	......	......	1
Peritonitis	......	2	1	......	......	1	......	......	2

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

MIDDLE ATLANTIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE LYMPHATIC SYSTEM	7	98	87	15			3	92	197
Congestion of the spleen		2	2					1	3
Hypertrophy of lymph glands								1	1
Inflammation of lymph vessels		1	1						1
Inflammation of lymph glands	6	59	53	9			3	75	140
Suppuration of lymph glands	1	36	31	6				15	52
DISEASES OF THE THYROID BODY		1	1						1
Goitre		1	1						1
DISEASES OF THE URINARY SYSTEM	3	37	13	18		5	4	43	83
Congestion of kidney		1					1		1
Acute nephritis	1	1	2					1	3
Bright's disease	2	16	1	10		4	3	9	27
Abscess of kidney		2		2					2
Calculus in ureter		1	1						1
Hæmaturia		4	3	1				1	5
Inflammation of bladder:									
Acute		8	5	3				21	29
Subacute								1	1
Chronic		1		1				3	4
Calculus of bladder		1		1					1
Retention of urine		2	1			1		1	3
Incontinence of urine								6	6
DISEASES OF THE GENERATIVE SYSTEM	10	132	94	38	4	3	3	306	448
Urethritis								12	12
Gleet								14	14
Stricture of urethra:									
Organic	1	26	13	11	1	2		31	58
Spasmodic								1	1
Urinary fistula		1	1						1
Hypertrophy of prostate gland								1	1
Acute inflammation of prostate gland								12	12
Inflammation of glans penis	1	5	5	1				6	12
Abscess of penis		1	1						1
Ulcer of penis	4	54	40	15		1	2	158	216
Phimosis		4	4					3	7
Paraphimosis	1	1	2					1	3
Varicocele		1		1				11	12
Hydrocele of tunica vaginalis	1	10	4	5	2			7	18
Orchitis:									
Acute	1	16	11	5	1			20	37
Chronic								3	3
Epididymitis	1	13	13				1	20	34
Spermatorrhœa								2	2
Impotence								3	3
Leucorrhœa								1	1
DISEASES OF THE ORGANS OF LOCOMOTION	5	29	23	7			4	14	48
Periostitis	1	6	6	1				1	8
Necrosis		3	1	1			1		3
Synovitis:									
Acute	2	5	5	1			1	3	2
Chronic		1	1					1	2
Ankylosis	1	2		2			1		2
Caries and necrosis of spine		1					1		2
Posterior curvature of spine	1			1					1
Inflammation of muscles								2	11
Inflammation of tendons		1	1					1	10
Contraction of tendons and fasciæ		1	1					1	2
Inflamed bursa		8	7	1				4	3
Bursal abscess		1	1						1
Bunion								1	1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

MIDDLE ATLANTIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE CONNECTIVE TISSUE	4	45	41	5	......	1	2	57	106
Œdema	......	1	1	......	......	......	......	1	2
Inflammation	......	12	9	1	......	1	1	24	36
Abscess	4	32	31	4	......	....	1	32	68
DISEASES OF THE SKIN	12	77	71	12	1	....	5	237	326
Erythema	......	......	......	......	......	....	......	3	3
Urticaria	......	......	......	......	......	....	......	3	3
Eczema	......	2	1	1	......	....	......	45	47
Intertrigo	......	......	......	......	......	....	......	1	1
Lichen	......	......	......	......	......	....	......	1	1
Psoriasis	1	......	......	1	......	....	......	9	10
Herpes	......	1	1	......	......	....	......	8	9
Zona	......	3	3	......	......	....	......	3	6
Sycosis	1	......	......	1	......	....	......	......	1
Frostbite	2	19	19	1	......	....	1	17	38
Ulcer	7	38	35	7	1	....	2	96	141
Boil	......	4	3	......	......	....	1	36	40
Carbuncle	......	3	2	......	......	....	1	2	5
Whitlow	1	7	7	1	......	....	......	8	16
Onychia	......	......	......	......	......	....	......	1	1
Lupus	......	......	......	......	......	....	......	1	1
Pruritus	......	......	......	......	......	....	......	3	3
PARASITIC DISEASES OF THE SKIN	1	......	1	......	......	....	......	24	25
Ringworm	1	......	1	......	......	....	......	5	6
Itch	......	......	......	......	......	....	......	18	18
Phthiriasis	......	......	......	......	......	....	......	1	1
Poisons	......	**8**	**6**	**2**	......	....	......	**1**	**9**
Metals and their salts	......	6	5	1	......	....	......	1	7
Vegetable poisons	......	2	1	1	......	....	......	......	2
Injuries	**16**	**240**	**192**	**43**	**2**	**3**	**16**	**361**	**617**
GENERAL INJURIES	......	32	28	2	1	....	1	47	79
Burns and scalds	......	21	18	2	......	....	1	21	42
Effects of cold	......	6	6	......	......	....	......	26	32
Heat-stroke	......	5	4	......	1	....	......	......	5
LOCAL INJURIES	16	208	164	41	1	3	15	314	538
Wound of glands	......	......	......	......	......	....	......	2	2
Strain of muscles	1	4	4	1	......	....	......	5	10
Wound of gland	......	......	......	......	......	....	......	4	4
Contusion of scalp	......	......	......	......	......	....	......	2	2
Scalp wound:									
Bone not exposed	......	3	3	......	......	....	......	5	8
Bone exposed	......	2	1	......	......	....	1	......	2
Fracture of the vault of the skull	......	2	1	......	......	1	......	......	2
Compression of brain	......	1	......	......	......	1	......	......	1
Contusion of face	......	3	2	......	......	....	1	3	6
Wound of face and mouth	1	7	8	......	......	....	......	10	18
Fracture of facial bones	......	3	2	1	......	....	......	1	4
Contusion of the eye	......	......	......	......	......	....	......	3	3
Foreign body in cornea or conjunctiva	......	......	......	......	......	....	......	6	6
Contusion of the chest	......	7	6	1	......	....	......	12	19
Fracture of the ribs	......	10	7	2	......	....	1	7	17
Contusion of back	......	11	10	......	......	....	1	8	19
Sprain of back	......	6	6	......	......	....	......	10	16
Wound of back	......	1	1	......	......	....	......	1	2
Wound of the urethra, perineum, scrotum, and penis	......	1	1	......	......	....	......	4	5
Wound of anus	......	......	......	......	......	....	......	1	1
Contusion of testicle	......	1	1	......	......	....	......	3	4

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

MIDDLE ATLANTIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Injuries—Continued.									
LOCAL INJURIES—Continued.									
Contusion of upper extremities	1	9	7	2			1	37	47
Sprain of the shoulder	1	8	4	5				6	15
Sprain of the elbow		1	1					2	3
Sprain of the wrist		7	4	2			1	23	30
Sprain of the fingers								2	2
Wound of the upper extremities	2	29	23	7		1		66	97
Fracture of the clavicle	1	3	2	2				1	5
Fracture of the humerus		1		1				1	2
Fracture of the radius		3	1	1	1			2	5
Fracture of both bones of forearm		8	6	1			1	4	12
Fracture of carpus, metacarpus, and phalanges		2	2					5	7
Dislocation of the clavicle								1	1
Dislocation of the humerus		6	4	2					6
Contusion of the lower extremities	2	13	12				3	24	39
Sprain of the hip		1	1						1
Sprain of the knee		6	5	1					6
Sprain of the ankle	2	19	15	6				19	40
Wound of the lower extremities	3	16	13	4			2	33	52
Wound of joint, lower extremities		1		1				1	2
Fracture of femur		2	1				1		2
Fracture of patella		1	1						1
Fracture of leg, both bones	1	2	3						3
Fracture of tibia alone	1	1	1	1					2
Fracture of fibula alone		3	2				1		3
Fracture of tarsus		2	1				1		2
Fracture of phalanges of toes		1	1						1
Dislocation of the metatarsus and phalanges		1	1						1

SOUTH ATLANTIC.

DISEASES.	Remaining under treatment from previous year.	Admitted during the year.	Discharged. Recovered.	Discharged. Improved.	Discharged. Not improved.	Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
TOTAL CASES	**137**	**1999**	**1320**	**566**	**41**	**72**	**137**	**6727**	**8863**
General Diseases	**61**	**1030**	**688**	**296**	**18**	**33**	**56**	**2961**	**4052**
Smallpox								1	1
Cowpox								2	2
Measles		16	14				2	8	24
Influenza		14	14					45	59
Whooping-cough	1		1						1
Mumps	1	3	3	1				4	8
Diphtheria		1	1						1
Simple continued fever		2	2					2	4
Enteric fever	1	34	23	2		7	3	4	39
Typho-malarial fever		5	3	1		1			5
Sporadic cholera		2			1		1	3	5
Dysentery	3	42	31	6		3	5	61	106
Malarial intermittent fever	10	225	210	13		2	10	595	830
Malarial remittent fever	4	134	117	10	3	4	4	79	217
Malarial cachexia	1	15	11	5				111	127
Beri-Beri		2	2						2
Erysipelas:									
Simple		14	10	4				12	26
Phlegmonous	1	1	2						2
Syphilis:									
Primary	4	63	36	29	1		1	87	154
Secondary	8	129	15	112	2		8	402	539
Gonorrhœa	1	34	23	8	1		3	687	722
Animal parasites		1	1					1	2
Alcoholism		13	11			1	1	11	24

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

SOUTH ATLANTIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
General Diseases—Continued.									
Debility		6	3	2			1	101	107
Rheumatic fever		34	17	14			3	21	55
Rheumatism	14	170	131	44	2	1	6	645	829
Gout								2	2
Nonmalignant new growth	1	4	2	3				30	35
Malignant new growth		2			1		1		2
Tubercle	11	60	4	41	5	14	7	40	111
Scrofula		1	1					2	3
Anæmia								4	4
Diabetes mellitus		3		1	2			1	4
Local Diseases	**69**	**729**	**471**	**206**	**21**	**35**	**65**	**3310**	**4108**
DISEASES OF THE NERVOUS SYSTEM	**8**	**42**	**18**	**16**		**6**	**10**	**189**	**239**
Congestion of cerebrum		2	2					1	3
Congestion of spinal cord								1	1
Inflammation of cerebral membranes		2				2			2
Spinal meningitis		1				1			1
Myelitis	2	2		1		1	2	1	5
Neuritis		1					1	1	2
Locomotor ataxy	1	1		2		1		5	7
Apoplexy		1							1
Hemiplegia	3	4		2		1	4	2	9
Paraplegia	2						2		2
Local paralysis		1	1					3	4
Anæsthesia								1	1
Wry-neck								1	1
Hyperæsthesia								1	1
Neuralgia		6	4	2				109	115
Facial		4	4					27	31
Sciatica		7	4	3				7	14
Vertigo		5	2	2			1	6	11
Megrim								12	12
Epilepsy		5	1	4				8	13
Chorea								1	1
Hysteria								2	2
MENTAL DISEASES	25	10	5	2	2	1	25	3	38
Hypochondriasis		1	1					2	3
Insanity		1			1				1
Mania	11	4	3			1	11	1	16
Melancholia	11	1	1	1	1		9		12
Dementia	2	2		1			3		4
General paralysis of the insane	1	1					2		2
DISEASES OF THE EYE	2	9	3	5	2		1	67	78
Conjunctivitis		2	2					44	46
Keratitis		1	1					2	3
Ulcer of cornea								2	2
Opacity of cornea		1		1				2	3
Inflammation of the sclerotic								1	1
Iritis		3		2	1			2	5
Choroiditis	1				1				1
Cataract	1						1		1
Panophthalmitis		1		1					1
Ametropia								2	2
Night-blindness								2	2
Day-blindness								2	2
Blepharitis								1	1
Stye		1		1				3	4
Abscess of eyelid								2	2
Chalazion								2	2
DISEASES OF THE EAR		4	1	3				28	32
Inflammation of the external meatus, acute		1		1				8	9

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

SOUTH ATLANTIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatmene at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE EAR—Continued.									
Abscess of the external meatus		1	1					1	2
Accumulation of wax								9	9
Inflammation of the middle ear		2		2				7	9
Deafness								3	3
DISEASES OF THE NOSE		1				1		41	42
Epistaxis								1	1
Nasal catarrh								36	36
Ulceration								4	4
Caries		1				1			1
DISEASES OF THE CIRCULATORY SYSTEM	1	26	1	14	1	9	2	74	101
Hydropericardium								5	5
Pericarditis		1		1				1	2
Valvular disease:									
Aortic		4		1		3		9	13
Mitral	1	17		12		5	1	28	46
Hypertrophy of heart								3	3
Dilatation of heart		2			1		1		2
Syncope								1	1
Palpitation and irregular action of heart								12	12
Aneurism of arteries		1				1		7	8
Phlebitis		1	1						1
Varix								8	8
DISEASES OF THE RESPIRATORY SYSTEM	2	102	64	24	3	9	4	690	794
Hay-asthma								1	1
Laryngitis:									
Acute								10	10
Chronic								4	4
Catarrhal								3	3
Bronchitis:									
Acute		38	32	5		1		577	615
Chronic		6		6				44	50
Catarrhal		1		1				15	16
Spasmodic asthma		6		5		1		15	21
Passive congestion of lung		1	1						1
Hemorrhage of lung		1		1				3	4
Pneumonia		24	17	2		5		2	26
Pneumonic phthisis:									
Acute		8	5	1		1	1	1	9
Chronic	1	7		2	3	1	2	2	10
Emphysema								1	1
Pleurisy:									
Acute		7	7					9	16
Chronic	1	2	2	1				3	6
Empyema		1					1		1
DISEASES OF THE DIGESTIVE SYSTEM	5	135	91	36	5	5	3	1,105	1,245
Fissure of the lips								1	1
Stomatitis								11	11
Caries of dentine and cementum								47	47
Necrosis of dentine and cementum								1	1
Abscess of dental periosteum	1			1				2	3
Inflammation of gums and alveoli		2	2					3	5
Ulceration of gums and alveoli								1	1
Toothache								10	10
Inflammation of the tongue	1		1					2	3
Ulcer of the tongue								1	1
Hypertrophy of tonsils								1	1
Elongated uvula								1	1
Sore throat		2	2					74	76
Quinsy		7	5	2				7	14

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

SOUTH ATLANTIC—Continued.

DISEASES.	NUMBER OF CASES.								
			Discharged.						
	Remaining under treatment from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
Local Diseases—Continued.									
DISEASES OF THE DIGESTIVE SYSTEM—Continued.									
Follicular tonsilitis	......	8	5	3	......	....	......	37	45
Ulceration of fauces	......	......	......	......	......	....	......	1	1
Salivation	......	1	1	......	......	....	......	3	4
Follicular inflammation of the pharynx	......	1	1	......	......	....	......	27	28
Hemorrhage of the stomach	......	......	......	......	......	....	......	1	1
Inflammation of the stomach	......	11	11	......	......	....	......	23	34
Dyspepsia	......	11	4	7	......	....	......	254	265
Gastrodynia	......	......	......	......	......	....	......	7	7
Vomiting	......	......	......	......	......	....	......	1	1
Inflammation of the intestines:									
Catarrhal	......	1	1	......	......	....	......	6	7
Ulcerative	......	3	1	2	......	....	......	7	10
Tympanitis	......	1	1	......	......	....	......	......	1
Obstruction of the intestines	......	2	2	......	......	....	......	......	2
Hernia	......	8	2	4	1	1	......	96	104
Fistula of intestines	......	1	......	1	......	....	......	......	1
Diarrhea	2	45	35	8	2	1	1	218	265
Constipation	......	2	2	......	......	....	......	152	154
Colic	......	3	3	......	......	....	......	22	25
Abscess of the rectum	......	2	2	......	......	....	......	......	2
Ulceration of the rectum	......	......	......	......	......	....	......	1	1
Ulceration of the anus	......	......	......	......	......	....	......	2	2
Piles:									
Internal	......	3	1	2	......	....	......	19	22
External	......	6	3	1	1	....	1	27	33
Stricture of the rectum	......	1	1	......	......	....	......	......	1
Fistula in ano	......	4	2	2	......	....	......	9	13
Pruritus ani	......	......	......	......	......	....	......	6	6
Atrophy of the liver	......	1	......	......	......	1	......	......	1
Congestion of the liver	......	1	......	1	......	....	......	4	5
Hepatitis	1	1	1	......	......	....	1	10	12
Jaundice	......	5	2	2	1	....	......	2	7
Inflammation of hepatic ducts and gall-bladder	......	......	......	......	......	....	......	6	2
Ascites	......	......	......	......	......	....	......	2	6
Peritonitis	......	2	......	......	......	2	......	......	2
DISEASES OF THE LYMPHATIC SYSTEM	4	80	60	17	2	....	5	110	194
Congestion of the spleen	......	......	......	......	......	....	......	1	1
Hypertrophy of lymph-glands	......	1	......	1	......	....	......	1	2
Inflammation of lymph-vessels	......	......	......	......	......	....	......	1	1
Inflammation of lymph-glands	4	40	33	6	1	....	4	87	131
Suppuration of lymph-glands	......	39	27	10	1	....	1	20	59
DISEASES OF THE URINARY SYSTEM	5	21	8	14	......	3	1	91	117
Congestion of kidney	......	......	......	......	......	....	......	1	1
Acute nephritis	......	3	......	3	......	....	......	8	11
Bright's disease	2	8	1	7	......	1	1	15	25
Calculus in kidney	......	......	......	......	......	....	......	1	1
Calculus in ureter	......	2	2	......	......	....	......	3	5
Hematuria	......	1	1	......	......	....	......	6	7
Lithuria	......	......	......	......	......	....	......	2	2
Phosphuria	......	1	......	1	......	....	......	......	1
Inflammation of bladder:									
Acute	......	3	1	2	......	....	......	32	35
Subacute	......	......	......	......	......	....	......	9	9
Chronic	3	......	......	1	......	2	......	3	6
Irritability of bladder	......	......	......	......	......	....	......	1	1
Retention of urine	......	......	......	......	......	....	......	7	7
Incontinence of urine	......	3	3	......	......	....	......	3	6
DISEASES OF THE GENERATIVE SYSTEM	4	154	104	42	5	1	6	377	531
Urethritis	......	......	......	......	......	....	......	11	15
Gleet	......	1	......	1	......	....	......	26	27

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

SOUTH ATLANTIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE GENERATIVE SYSTEM—Continued.									
Stricture of urethra:									
Organic	2	25	10	13	2	1	1	38	65
Spasmodic	......	2	2	......	......	....	......	......	2
Urinary fistula	1	1	......	2	......	....	......	......	2
Hypertrophy of prostate gland	......	1	......	1	......	....	......	2	3
Acute inflammation of prostate gland	......	1	1	......	......	....	......	1	2
Œdema of the penis	......	2	2	......	......	....	......	1	3
Inflammation of the penis	......	1	1	......	......	....	......	1	2
Inflammation of glans penis	......	1	1	......	......	....	......	7	8
Ulcer of penis	......	62	44	14	1	....	3	216	278
Phimosis	......	9	5	2	1	....	1	3	12
Paraphimosis	......	7	6	1	......	....	......	4	11
Abscess of the scrotum	......	......	......	......	......	....	......	3	3
Hydrocele of spermatic cord	......	......	......	......	......	....	......	1	1
Inflammation of spermatic cord	......	......	......	......	......	....	......	1	1
Varicocele	......	1	1	......	......	....	......	7	8
Hydrocele of tunica vaginalis	1	1	2	......	......	....	......	11	13
Orchitis:									
acute	......	30	25	5	......	....	......	35	65
chronic	......	......	......	......	......	....	......	1	1
Epididymitis	......	6	3	1	1	....	1	3	9
Abscess of testicle	......	1	......	1	......	....	......	......	1
Spermatorrhea	......	......	......	......	......	....	......	5	5
Inflammation of the ovary	......	1	......	1	......	....	......	......	1
Menorrhagia	......	1	1	......	......	....	......	......	1
DISEASES OF THE ORGANS OF LOCOMOTION	3	18	13	5	......	....	3	42	63
Ostitis	1	1	1	......	......	....	1	1	3
Periostitis	1	......	1	......	......	....	......	2	3
Caries	......	1	1	......	......	....	1	......	1
Necrosis	......	1	......	......	......	....	......	2	3
Dropsy of joints	......	......	......	......	......	....	......	2	2
Synovitis, acute	1	10	8	3	......	....	......	7	18
Ankylosis	......	2	......	1	......	....	1	1	3
Lateral curvature of spine	......	......	......	......	......	....	......	2	2
Inflammation of muscles	......	......	......	......	......	....	......	19	19
Abscess of muscles	......	1	......	1	......	....	......	......	1
Inflammation of tendons	......	1	1	......	......	....	......	......	1
Contraction of tendons and fasciæ	......	......	......	......	......	....	......	1	1
Inflamed bursa	......	......	......	......	......	....	......	2	2
Thecal abscess	......	1	1	......	......	....	......	......	1
Ganglion	......	......	......	......	......	....	......	3	3
DISEASES OF THE CONNECTIVE TISSUE	4	29	26	6	......	....	1	66	99
Œdema	......	2	......	2	......	....	......	5	7
Inflammation	1	1	1	1	......	....	......	10	12
Abscess	3	26	25	3	......	....	1	51	80
DISEASES OF THE SKIN	6	94	73	22	1	....	4	357	457
Erythema	......	1	1	......	......	....	......	4	5
Urticaria	......	......	......	......	......	....	......	8	8
Eczema	......	8	6	2	......	....	......	65	73
Intertrigo	......	......	......	......	......	....	......	1	1
Ecthyma	......	......	......	......	......	....	......	2	2
Pityriasis	......	......	......	......	......	....	......	2	2
Prurigo	......	......	......	......	......	....	......	6	6
Lichen	......	......	......	......	......	....	......	7	7
Psoriasis	......	......	......	......	......	....	......	2	2
Herpes	......	......	......	......	......	....	......	13	13
Zona	......	1	......	......	......	....	1	3	4
Pemphigus	......	......	......	......	......	....	......	3	3
Acne	......	......	......	......	......	....	......	2	2
Sycosis	......	2	1	1	......	....	......	5	7
Chilblain	......	1	1	......	......	....	......	4	5

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

SOUTH ATLANTIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE SKIN—Continued.									
Frost-bite	1	16	12	4			1	13	30
Ulcer	4	24	16	11			1	96	124
Cicatrices								1	1
Fissures								4	4
Boil		11	9	2				71	82
Carbuncle		8	7		1			12	20
Whitlow	1	18	17	1			1	22	41
Onychia		3	2	1				2	5
Corn								1	1
Lupus								2	2
Wen		1	1					2	3
Pruritus								4	4
PARASITIC DISEASES OF THE SKIN		4	4					70	74
Ringworm								7	7
Itch								55	55
Phthiriasis								8	8
Unclassified		4	4						4
Poisons		2	2					4	6
Organic substances		1	1						1
Vegetable poisons		1	1					4	5
POISONED WOUNDS		1	1						1
Venomous animals		1	1						1
Injuries	**7**	**237**	**158**	**64**	**2**	**4**	**16**	**452**	**696**
GENERAL INJURIES		32	24	8				42	74
Burns and scalds		24	17	7				22	46
Effects of cold		1	1					19	20
Lightning stroke								1	1
Heat stroke		4	4						4
Multiple injury		1		1					1
Exhaustion		2	2						2
LOCAL INJURIES	7	205	134	56	2	4	16	410	622
Wound of nerve		1		1					1
Strain of muscles	1	4	1	3			1	21	26
Abrasion of skin		1		1				6	7
Foreign body in subcutaneous tissue								5	5
Contusion of scalp		3	3					3	6
Scalp wound:									
Bone not exposed		8	7	1				12	20
Bone exposed		2		1		1		1	3
Contusion of skull								1	1
Fracture of the vault of the skull		3	1			1	1		3
Contusion of face	1	2	1	1		1		3	6
Wound of face and mouth		7	6	1				16	23
Fracture of facial bones		3	3						3
Contusion of the eye	1	1		2				1	3
Foreign body in cornea or conjunctiva								11	11
Wound of eyelid								3	3
Wound of the sclerotic		1	1						1
Wound of the cornea								2	2
Contusion of pinna								1	1
Rupture of membrana tympani								2	2
Wound of neck		1	1						1
Contusion of the chest	1	2	3					15	18
Fracture of the ribs		11	5	6				6	17
Wound of parietes of chest		3	3					3	6
Contusion of back		5	3	2				12	17
Sprain of back		4	2	1			1	13	17

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

SOUTH ATLANTIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Injuries—Continued.									
LOCAL INJURIES—Continued.									
Wound of back		5	5						5
Contusion of abdomen		1	1					1	2
Contusion of the pelvis								2	2
Contusion of the urethra, perineum, scrotum, and penis.		1	1					1	2
Wound of the urethra, perineum, scrotum, and penis		3	1	2					3
Rupture of urethra		1		1					1
Contusion of testicle								1	1
Contusion of upper extremities		8	6	2				31	39
Sprain of the shoulder								2	2
Sprain of the elbow								5	5
Sprain of the wrist		1					1	18	19
Sprain of the fingers		1		1				5	6
Wound of the upper extremities		52	38	12	1		1	124	176
Fracture of the clavicle		1	1						1
Fracture of the radius		1	1						1
Fracture of the ulna	1		1					1	2
Fracture of both bones of forearm		7	3	1	1		2		7
Fracture of carpus, metacarpus, and phalanges		5	1	4				7	12
Dislocation of the clavicle		1		1					1
Dislocation of the humerus		5	5						5
Dislocation of the phalanges of thumb		1	1						1
Dislocation of the phalanges of fingers								1	1
Contusion of the lower extremities		14	7	5		1	1	24	38
Sprain of the knee		1	1					2	3
Sprain of the ankle		15	7	4			4	19	34
Sprain of the foot								4	4
Wound of the lower extremities	1	5	5	1				25	31
Wound of joint, lower extremities		1		1					1
Fracture of leg, both bones	1	7	4	1			3		8
Fracture of tibia alone		3	2				1		3
Fracture of fibula alone		3	3						3

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TOTAL CASES	63	1,274	778	424	24	44	67	3,876	5,213
General Diseases	26	701	426	243	9	18	31	1,761	2,488
Cowpox								154	154
Influenza		26	17	8		1		39	65
Mumps		1	1						1
Diphtheria		1				1			1
Simple continued fever		3	1	2				1	4
Enteric fever	2	5	4	2		1			7
Typho-malarial fever		1					1		1
Sporadic cholera								1	1
Dysentery		43	37	2		3	1	20	63
Malarial intermittent fever	6	180	163	13	1	1	8	397	583
Malarial remittent fever		74	68	4		1	1	68	142
Malarial cachexia		9	7	2				41	50
Phagedæna	1					1			1
Erysipelas, simple		2	1				1	5	7
Syphilis:									
Primary	1	69	17	48	3		2	79	149
Secondary	7	114	6	105	1	1	8	284	405
Gonorrhœa	4	43	36	11				287	334
Animal parasites								6	6
Effects of excessive venery								4	4
Scurvy								2	2

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE GULF—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
General Diseases—Continued.									
Alcoholism		7	5	1			1	4	11
Effects of chemical agents								1	1
Debility		2		1			1	40	42
Rheumatic fever		8	8					7	15
Rheumatism	3	77	50	24		1	5	289	369
Gout								4	4
Nonmalignant new growth		2	1	1				8	10
Malignant new growth		2		2					2
Tubercle	2	25		14	4	7	2	9	36
Scrofula								3	3
Anæmia		7	4	3				7	14
Diabetes mellitus								1	1
Local Diseases	**27**	**415**	**240**	**137**	**14**	**23**	**28**	**1,800**	**2,242**
DISEASES OF THE NERVOUS SYSTEM	5	22	17	4	2	3	1	118	145
Spinal meningitis		1					1		1
Locomotor ataxy	2	1		1	1	1			3
Paralysis								1	1
Hemiplegia	1	1				2			2
Paraplegia								1	1
Local paralysis								2	2
Toxic paralysis	1				1				1
Anæsthesia								2	2
Spasm of muscle		1	1					3	4
Hyperæsthesia								3	3
Neuralgia		9	8	1				59	68
Facial		2	2					17	19
Sciatica	1	6	1	1				6	13
Vertigo								1	1
Megrim								18	18
Metanus		1		1					1
Epilepsy								3	3
Chorea								1	1
Hysteria								1	1
MENTAL DISEASES	4	3	2	2		1	2	2	9
Hypochondriasis								2	2
Insanity	1	1		1			1		2
Mania	1						1		1
Melancholia		1	1						1
Dementia	2			1		1			2
Toxic insanity		1	1						1
DISEASES OF THE EYE		11	3	4	1		3	47	58
Conjunctivitis		2		2				33	35
Keratitis		4	2	1			1	4	8
Ulcer of cornea		1		1					1
Iritis		1	1					4	5
Synechia								1	1
Cataract		2			1		1	1	3
Panophthalmitis		1					1		1
Night-blindness								2	2
Blepharitis								1	1
Stye								1	1
DISEASES OF THE EAR		2	1	1				16	18
Abscess of the external meatus								1	1
Subaceous cyst								1	1
Accumulation of wax								5	5
Inflammation of the middle ear		2	1	1				6	8
Ulceration of membrana tympani								3	3
DISEASES OF THE NOSE		1		1				22	23
Epistaxis								1	1
Inflammation								5	5

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE GULF—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE NOSE—Continued.									
Nasal catarrh	......	1	......	1	......	....	......	15	16
Ozæna	......	......	......	......	......	....	......	1	1
DISEASES OF THE CIRCULATORY SYSTEM	1	17	1	11	......	5	1	33	51
Pericarditis	......	1	......	1	......	....	......	......	1
Endocarditis	......	1	......	......	......	1	......	......	1
Valvular disease:									
Aortic	1	5	1	5	......	....	......	3	9
Mitral	......	7	......	4	......	3	......	14	21
Hypertrophy of heart	......	......	......	......	......	....	......	1	1
Dilatation of heart	......	......	......	......	......	....	......	1	1
Palipitation and irregular action of heart	......	......	......	......	......	....	......	10	10
Aneurism of arteries	......	3	......	1	......	1	1	1	4
Phlebitis	......	......	......	......	......	....	......	1	1
Varix	......	......	......	......	......	....	......	2	2
DISEASES OF THE RESPIRATORY SYSTEM	......	55	34	12	1	8	......	327	382
Laryngitis, acute	......	1	1	......	......	....	......	2	3
Bronchitis:									
Acute	......	13	9	2	......	2	......	222	235
Chronic	......	5	2	1	......	2	......	64	69
Catarrhal	......	6	4	2	......	....	......	20	26
Spasmodic asthma	......	3	1	2	......	....	......	6	9
Hemorrhage of lung	......	1	......	1	......	....	......	3	4
Pneumonia	......	16	10	3	......	3	......	1	17
Pleurisy:									
Acute	......	9	6	1	1	1	......	2	11
Chronic	......	1	1	......	......	....	......	7	8
DISEASES OF THE DIGESTIVE SYSTEM	7	70	47	23	1	....	6	663	740
Stomatitis	......	1	1	......	......	....	......	7	8
Caries of dentine and cementum	......	......	......	......	......	....	......	28	28
Necrosis of dentine and cementum	......	......	......	......	......	....	......	2	2
Abcess of dental periosteum	......	......	......	......	......	....	......	2	2
Inflammation of gums and alveoli	......	......	......	......	......	....	......	1	1
Toothache	......	......	......	......	......	....	......	15	15
Ulcer of the tongue	......	......	......	......	......	....	......	1	1
Sore throat	......	......	......	......	......	....	......	24	24
Quinsy	......	2	1	1	......	....	......	3	5
Follicular tonsilitis	......	1	1	......	......	....	......	10	11
Salivation	1	......	1	......	......	....	......	2	3
Follicular inflammation of the pharynx	......	......	......	......	......	....	......	15	15
Inflammation of the stomach	......	4	2	1	1	....	......	4	8
Dilatation of the stomach	......	1	......	1	......	....	......	1	2
Dyspepsia	......	1	......	......	......	....	1	137	138
Gastrodynia	......	......	......	......	......	....	......	1	1
Inflammation of the intestines:									
Catarrhal	1	......	1	......	......	....	......	7	8
Ulcerative	1	2	3	......	......	....	......	1	4
Hernia	......	3	1	2	......	....	......	78	81
Diarrhea	4	23	22	4	......	....	1	105	132
Constipation	......	1	......	1	......	....	......	155	156
Colic	......	2	2	......	......	....	......	17	19
Abscess of the rectum	......	1	......	1	......	....	......	......	1
Ulceration of the anus	......	1	1	......	......	....	......	......	1
Piles:									
Internal	......	4	2	2	......	....	......	7	11
External	......	5	1	3	......	....	1	18	23
Prolapsus of the rectum	......	2	......	1	......	....	1	......	2
Fistula in ano	......	5	2	1	......	....	2	......	5
Congestion of the liver	......	2	2	......	......	....	......	8	10
Hepatitis	......	2	1	1	......	....	......	......	2
Cirrhosis of liver	......	1	......	1	......	....	......	......	1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE GULF—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE DIGESTIVE SYSTEM—Continued.									
Jaundice	......	4	2	2	......	....	......	9	13
Inflammation of hepatic ducts and gall-bladder	......	......	......	......	......	....	......	1	1
Gallstones	......	1	1	......	......	....	......	2	3
Ascites	......	1	......	1	......	....	......		1
Peritonitis	......	......	......	......	......	....	......	2	2
DISEASES OF THE LYMPHATIC SYSMEM	2	16	15	2	......	....	1	54	72
Hypertrophy of the spleen	......	......	......	......	......	....	......	1	1
Congestion of the spleen	......	......	......	......	......	....	......	1	1
Inflammation of lymph glands	2	13	13	2	......	....	......	42	57
Suppuration of lymph-glands	......	3	2	......	......	....	1	10	13
DISEASES OF THE URINARY SYSTEM	1	23	5	11	3	4	1	32	56
Acute nephritis	......	9	3	3	1	1	1	1	10
Bright's disease	1	11	......	7	2	3	......	7	19
Diabetes insipidus	......	......	......	......	......	....	......	1	1
Hæmaturia	......	......	......	......	......	....	......	1	1
Inflammation of bladder:									
Acute	......	......	......	......	......	....	......	4	4
Sub-acute	......	1	1	......	......	....	......	......	1
Chronic	......	......	......	......	......	....	......	5	5
Irritability of bladder	......	......	......	......	......	....	......	13	13
Retention of urine	......	1	1	......	......	....	......	......	1
Incontinence of urine	......	1	......	1	......	....	......	......	1
DISEASES OF THE GENERATIVE SYSTEM	6	109	64	38	1	2	10	220	335
Urethritis	......	1	1	......	......	....	......	2	3
Gleet	......	......	......	......	......	....	......	3	3
Lacunar abscess	......	1	......	1	......	....	......	......	1
Stricture of urethra:									
Organic	......	24	16	5	1	1	1	21	45
Spasmodic	......	......	......	......	......	....	......	2	2
Hypertrophy of prostate gland	......	......	......	......	......	....	......	2	2
Acute inflammation of prostate gland	......	......	......	......	......	....	......	2	2
Chronic inflammation of prostate gland	......	......	......	......	......	....	......	1	1
Inflammation of glans penis	......	......	......	......	......	....	......	2	2
Ulcer of penis	6	68	39	28	......	....	7	143	217
Paraphimosis	......	1	1	......	......	....	......	......	1
Chordee	......	......	......	......	......	....	......	1	1
Inflammation of the scrotum	......	1	......	......	......	....	1	......	1
Inflammation of spermatic cord	......	......	......	......	......	....	......	2	2
Varicocele	......	......	......	......	......	....	......	9	9
Hydrocele of tunica vaginalis	......	1	......	1	......	....	......	1	2
Orchitis:									
Acute	......	7	5	1	......	1	......	16	23
Chronic	......	......	......	......	......	....	......	4	4
Epididymitis	......	3	2	......	......	....	1	4	7
Abscess of testicle	......	1	......	1	......	....	......	1	2
Cyst of testicle	......	1	......	1	......	....	......	......	1
Spermatorrhœa	......	......	......	......	......	....	......	4	4
DISEASES OF THE ORGANS OF LOCOMOTION	......	7	4	3	......	....	......	8	15
Periostitis	......	2	......	2	......	....	......	1	3
Caries	......	2	2	......	......	....	......	......	2
Synovitis:									
Acute	......	1	1	......	......	....	......	1	2
Chronic	......	......	......	......	......	....	......	1	1
Dislocation of articular cartilage	......	......	......	......	......	....	......	1	1
Psoas, lumbar, and other abscesses	......	1	......	1	......	....	......	......	1
Inflamed bursa	......	......	......	......	......	....	......	1	1
Thecal abscess	......	1	1	......	......	....	......	2	3
Bursal tumor	......	......	......	......	......	....	......	1	1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE GULF—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensaay.
			Recovery.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE CONNECTIVE TISSUE	......	25	19	4	1	....	1	24	49
Inflammation	......	5	3	......	1	....	1	5	10
Abscess	......	20	16	4	......	....	......	19	39
DISEASES OF THE SKIN	1	49	27	21	......	....	2	210	260
Urticaria	......	......	......	......	......	....	......	12	12
Eczema	......	1	......	1	......	....	......	37	38
Intertrigo	......	......	......	......	......	....	......	1	1
Impetigo	......	1	......	1	......	....	......	......	1
Ecthyma	......	......	......	......	......	....	......	2	2
Pityriasis	......	......	......	......	......	....	......	1	1
Prurigo	......	......	......	......	......	....	......	4	4
Lichen	......	......	......	......	......	....	......	3	3
Psoriasis	......	......	......	......	......	....	......	2	2
Miliaria	......	......	......	......	......	....	......	2	2
Herpes	......	......	......	......	......	....	......	6	6
Zona	......	......	......	......	......	....	......	2	2
Acne	......	......	......	......	......	....	......	2	2
Sycosis	......	......	......	......	......	....	......	3	3
Chilblain	......	......	......	......	......	....	......	4	4
Frostbite	......	......	......	......	......	....	......	10	10
Ulcer	1	31	15	16	......	....	1	68	100
Fissures	......	......	......	......	......	....	......	3	3
Boil	......	5	5	......	......	....	......	24	29
Carbuncle	......	2	2	......	......	....	......	6	8
Whitlow	......	8	5	3	......	....	......	14	22
Onychia	......	......	......	......	......	....	......	3	3
Corn	......	......	......	......	......	....	......	1	1
Lupus	......	1	......	......	......	....	1	......	1
PARASITIC DISEASES OF THE SKIN	......	5	1	......	4	....	......	24	29
Ringworm	......	......	......	......	......	....	......	11	11
Tinea versicolor	......	......	......	......	......	....	......	2	2
Itch	......	1	1	......	......	....	......	11	12
Unclassified	......	4	......	......	4	....	......	......	4
Poisons	......	......	......	......	......	....	......	4	4
Iodine	......	......	......	......	......	....	......	1	1
Organic substances	......	......	......	......	......	....	......	1	1
Vegetable poisons	......	......	......	......	......	....	......	2	2
POISONED WOUNDS	......	......	......	......	......	....	......	3	3
Venomous animals	......	......	......	......	......	....	......	1	1
Vegetable substances	......	......	......	......	......	....	......	2	2
Injuries	**10**	**158**	**112**	**44**	**1**	**3**	**8**	**308**	**476**
GENERAL INJURIES	......	8	7	......	......	1	......	12	20
Burns and scalds	......	5	4	......	......	1	......	9	14
Heat stroke	......	3	3	......	......	....	......	3	6
LOCAL INJURIES	10	150	105	44	1	2	8	296	456
Contusion of nerves	......	......	......	......	......	....	......	2	2
Wound of arteries	......	......	......	......	......	....	......	3	3
Strain of muscles	......	1	1	......	......	....	......	9	10
Abrasion of skin	......	......	......	......	......	....	......	2	2
Foreign body in subcutaneous tissue	......	1	1	......	......	....	......	......	1
Contusion of scalp	......	......	......	......	......	....	......	1	1
Scalp wound:									
Bone not exposed	1	4	3	2	......	....	......	9	14
Bone exposed	......	1	......	1	......	....	......	7	8
Fracture of the vault of the skull	......	1	......	......	......	1	......	......	1
Contusion of face	......	1	1	......	......	....	......	4	5
Wound of face and mouth	1	4	3	2	......	....	......	6	11

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE GULF—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Injuries—Continued.									
LOCAL INJURIES—Continued.									
Fracture of facial bones	......	3	1	2	......	....	......	......	3
Contusion of the eye	......	......	......	......	......	....	......	3	3
Foreign body in cornea or conjunctiva	......	......	......	......	......	....	......	8	8
Wound of the cornea	......	1	1	......	......	....	......	......	1
Contusion of pinna	......	2	......	2	......	....	......	......	2
Wound of pina	......	......	......	......	......	....	......	2	2
Foreign body in external meatus	......	......	......	......	......	....	......	1	1
Wound of neck	......	1	1	......	......	....	......	......	1
Contusion of the chest	......	9	7	1	......	....	1	14	23
Fracture of the ribs	......	6	1	3	1	....	1	6	12
Wound of parieties of chest	......	3	1	2	......	....	......	2	5
Penetrating wound of pleura or lung	......	1	1	......	......	....	......	......	1
Contusion of back	......	5	2	3	......	....	......	7	12
Sprain of back	......	6	5	1	......	....	......	19	25
Concussion of cord	......	1	1	......	......	....	......	......	1
Contusion of abdomen	......	1	1	......	......	....	......	5	6
Wound of parieties of abdomen	1	1	1	1	......	....	......	1	3
Contusion of the pelvis	......	1	......	1	......	....	......	......	1
Foreign body in the rectum	......	1	1	......	......	....	......	......	1
Contusion of testicle	......	1	1	......	......	....	......	2	3
Contusion of upper extremities	1	5	5	1	......	....	......	25	31
Sprain of the shoulder	......	1	1	......	......	....	......	12	13
Sprain of the wrist	......	3	3	......	......	....	......	5	8
Sprain of the fingers	......	......	......	......	......	....	......	1	1
Wound of the upper extremities	1	17	14	4	......	....	......	63	81
Fracture of the clavicle	......	2	1	1	......	....	......	2	4
Fracture of the humerus	......	1	......	......	......	....	1	......	1
Fracture of the radius	......	1	1	......	......	....	......	4	5
Fracture of the ulna	......	2	2	......	......	....	......	1	3
Fracture of both bones of forearm	1	5	2	2	......	1	1	......	6
Fracture of carpus, metacarpus, and phalanges	1	1	1	1	......	....	......	7	9
Dislocation of the clavicle	1	......	1	......	......	....	......	......	1
Dislocation of the humerus	......	1	1	......	......	....	......	1	2
Dislocation of the phalanges of thumb	......	......	......	......	......	....	......	1	1
Contusion of the lower extremities	......	12	9	2	......	....	1	22	34
Sprain of the hip	......	......	......	......	......	....	......	4	4
Sprain of the knee	......	3	3	......	......	....	......	8	11
Sprain of the ankle	......	3	1	1	......	....	1	7	10
Sprain of the foot	......	1	......	1	......	....	......	1	2
Wound of the lower extremities	......	29	22	6	......	....	1	19	48
Wound of joint, lower extremities	......	1	1	......	......	....	......	......	1
Fracture of femur	1	......	1	......	......	....	......	......	1
Fracture of patella	......	2	......	1	......	....	1	......	2
Fracture of leg, both bones	......	2	......	2	......	....	......	......	2
Fracture of fibula alone	1	......	1	......	......	....	......	......	1
Fracture of tarsus	......	1	1	......	......	....	......	......	1
Dislocation of the knee	......	1	......	1	......	....	......	......	1

THE OHIO.

TOTAL CASES	52	1,342	895	355	22	42	80	3,825	5,219
General Diseases	22	569	344	178	8	27	34	2,007	2,598
Cowpox	......	......	......	......	......	....	......	506	506
Chicken-pox	......	1	1	......	......	....	......	1	2
Typhus	......	1	1	......	......	....	......	......	1
Influenza	......	19	15	2	1	1	......	16	35
Mumps	......	6	6	......	......	....	......	3	9
Cerebro-spinal fever	......	1	......	......	......	1	......	......	1
Enteric fever	......	20	15	......	......	3	2	1	21

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE OHIO—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
General Diseases—Continued.									
Typho-malarial fever		2	2						2
Sporadic cholera		2	2					3	5
Dysentery	2	24	25				1	11	37
Malarial intermittent fever	3	89	81	7	1		3	175	267
Malarial remittent fever		15	12		1		2	5	20
Malarial cachexia		4	4					51	55
Erysipelas, simple		9	9						9
Syphilis:									
Primary	2	22	15	9				41	65
Secondary	4	106	10	86	4	2	8	414	524
Gonorrhœa	1	25	19	6		1		307	333
Animal parasites		2	1	1				3	5
Effects of excessive venery								1	1
Alcoholism		21	17	4				6	27
Debility		3	2	1				45	48
Old age	1						1		1
Rheumatic fever	2	18	16	4				24	44
Rheumatism	3	117	85	26			9	284	404
Osteo-arthritis		1	1						1
Nonmalignant new growth		4	4					23	27
Malignant new growth		2	1			1			2
Tubercle	4	52		31	1	17	7	70	126
Scrofula		3		1		1	1	7	10
Anæmia								10	10
Local Diseases	**22**	**588**	**401**	**149**	**14**	**13**	**33**	**1,651**	**2,261**
DISEASES OF THE NERVOUS SYSTEM	2	22	13	7			4	105	129
Inflammation of membranes of brain and spinal cord		1	1						1
Myelitis	1			1					1
Neuritis								2	2
Locomotor ataxy		5		2			3	10	15
Hemiplegia	1						1	1	2
Paraplegia		1		1					1
Local paralysis		1		1				6	7
Spasm of muscle		1		1				1	2
Neuralgia		6	5	1				32	38
Facial		5	5					15	20
Sciatica		2	2					5	7
Vertigo								10	10
Megrim								15	15
Epilepsy								8	8
MENTAL DISEASES		2	1		1			1	3
Hypochondriasis								1	1
Insanity		2	1		1				2
DISEASES OF THE EYE		11	5	3	1		2	36	47
Conjunctivitis		3		2			1	25	28
Keratitis								1	1
Ulcer of cornea		1	1					2	3
Staphyloma		1	1						1
Inflammation of the sclerotic		1		1					1
Iritis		5	3		1		1	2	7
Neuro-retinitis								1	1
Cataract								3	2
Epiphora								2	3
DISEASES OF THE EAR	1	3	3	1				11	15
Hæmatoma of the auricle								1	1
Inflammation of the external meatus, acute								1	1
Abscess of the external meatus		1	1						1
Accumulation of wax								1	1
Inflammation of the middle ear	1	2	2	1				6	9
Obstruction of the Eustachian tube								2	2

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE OHIO—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE NOSE		3	1	2				45	48
Epistaxis								1	1
Nasal catarrh		3	1	2				43	46
Ulceration								1	1
DISEASES OF THE CIRCULATORY SYSTEM	1	15		7	2	4	3	48	64
Pericarditis		1				1		4	5
Endocarditis								2	2
Valvular disease:									
Aortic	1	1		1		1		11	13
Mitral		10		4	2	2	2	22	32
Hypertrophy of heart		1		1				2	3
Palpitation and irregular action of heart								5	5
Aneurism of arteries		1					1	2	3
Varix		1		1					1
DISEASES OF THE RESPIRATORY SYSTEM	1	96	67	23	3	2	2	343	440
Hay-asthma								1	1
Laryngitis:									
Acute		4	1	3				11	15
Chronic								1	1
Bronchitis:									
Acute		60	50	6	3		1	247	307
Chronic		7	1	5			1	47	54
Catarrhal		1		1				2	3
Spasmodic asthma		2		2				12	14
Hemorrhage of lung		1		1				2	3
Pneumonia	1	12	11			2		1	14
Pneumonic phthisis:									
Acute								2	2
Chronic		2		2				7	9
Pleurisy:									
Acute		7	4	3				9	16
Chronic								1	1
DISEASES OF THE DIGESTIVE SYSTEM	3	144	114	25	1	4	3	539	686
Ulcer of the lips								1	1
Stomatitis								5	5
Caries of dentine and cementum								1	1
Abscess of dental periosteum								1	1
Ulceration of gums and alveoli								1	1
Toothache								1	1
Inflammation of the tongue		1	1						1
Ulcer of the tongue								1	1
Hypertrophy of tonsils								2	2
Elongated uvula								1	1
Relaxed throat								1	1
Sore throat		5	4			1		27	32
Quinsy								2	2
Follicular tonsilitis		6	5			1		15	21
Ulceration of fauces								1	1
Inflammation of salivary glands		1	1						1
Salivation		1	1						1
Follicular inflammation of the pharynx								19	19
Post-pharyngeal abscess								1	1
Ulceration of pharynx								4	4
Inflammation of the stomach		17	14	2		1		43	60
Ulceration of the stomach								1	1
Dyspepsia		2	2					79	81
Vomiting								1	1
Inflammation of the intestines:									
Catarrhal	1	15	15	1				22	38
Ulcerative		4	3	1					4
Abscess in the subperitoneal tissue								1	1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE OHIO—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE DIGESTIVE SYSTEM—Continued.									
Hernia	......	7	2	3	1	....	1	41	48
Diarrhœa	1	53	45	8	......	....	1	94	148
Constipation	......	2	2	......	......	....	......	88	90
Colic	......	1	1	......	......	....	......	4	5
Abscess of the rectum	......	2	1	......	......	1	......	2	4
Ulceration of the rectum	......	1	1	......	......	....	......	......	1
Piles:									
Internal	......	6	4	2	......	....	......	17	23
External	1	3	3	1	......	....	......	12	16
Prolapsus of the rectum	......	1	......	1	......	....	......	......	1
Fistula in ano	......	5	3	2	......	....	......	1	6
Fissure of the anus	......	1	1	......	......	....	......	......	1
Hypertrophy of the liver	......	2	2	......	......	....	......	2	4
Congestion of the liver	......	1	......	1	......	....	......	15	16
Hepatitis	......	......	......	......	......	....	......	25	25
Cirrhosis of liver	......	2	......	1	......	....	1	......	2
Abscess of liver	......	1	1	......	......	....	......	2	3
Jaundice	......	1	......	1	......	....	......	3	4
Inflammation of hepatic ducts and gall-bladder	......	2	2	......	......	....	......	2	4
Gallstones	......	1	......	1	......	....	......	......	1
DISEASES OF THE LYMPHATIC SYSTEM	6	58	45	11	2	....	6	42	106
Hypertrophy of the spleen	......	......	......	......	......	....	......	1	1
Inflammation of lymph glands	5	34	26	6	2	....	5	29	68
Suppuration of lymph glands	1	24	19	5	......	....	1	12	37
DISEASES OF THE URINARY SYSTEM	......	14	4	6	1	2	1	52	61
Congestion of kidney	......	......	......	......	......	....	......	1	1
Acute nephritis	......	3	......	1	1	1	......	4	7
Bright's disease	......	5	......	3	......	1	1	3	8
Pyelitis	......	......	......	......	......	....	......	1	1
Nephralgia	......	......	......	......	......	....	......	1	1
Diabetes insipidus	......	1	......	1	......	....	......	......	1
Suppression of urine	......	......	......	......	......	....	......	1	1
Hæmaturia	......	1	1	......	......	....	......	3	4
Inflammation of bladder:									
Acute	......	2	2	......	......	....	......	6	8
Subacute	......	1	1	......	......	....	......	17	18
Chronic	......	1	......	1	......	....	......	6	7
Irritability of bladder	......	......	......	......	......	....	......	4	4
Incontinence of urine	......	......	......	......	......	....	......	5	5
DISEASES OF THE GENERATIVE SYSTEM	7	128	93	33	2	....	7	225	360
Urethritis	......	1	1	......	......	....	......	16	17
Gleet	......	......	......	......	......	....	......	4	4
Stricture of urethra:									
Organic	......	14	7	7	......	....	......	19	33
Spasmodic	......	1	1	......	......	....	......	......	1
Urinary fistula	......	3	......	1	1	....	1	2	5
Hypertrophy of prostate gland	......	......	......	......	......	....	......	4	4
Chronic inflammation of prostate gland	......	......	......	......	......	....	......	1	1
Œdema of the penis	......	......	......	......	......	....	......	1	1
Inflammation of glans penis	......	......	......	......	......	....	......	9	9
Ulcer of penis	6	82	68	18	......	....	2	138	226
Phimosis	......	4	3	......	......	....	1	3	7
Paraphimosis	......	1	1	......	......	....	......	1	2
Abscess of the scrotum	......	1	......	1	......	....	......	......	1
Inflammation of spermatic cord	......	......	......	......	......	....	......	3	3
Hydrocele of tunica vaginalis	......	......	......	......	......	....	......	4	4
Orchitis:									
Acute	1	13	8	4	......	....	2	8	22
Chronic	......	1	1	......	......	....	......	......	1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE OHIO—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE GENERATIVE SYSTEM—Continued.									
Epididymitis		6	3	1	1		1	6	12
Impotence								2	2
Inflammation of the uterus		1	1					2	3
Inflammation of the vagina								1	1
Metrorrhagia								1	1
DISEASES OF THE ORGANS OF LOCOMOTION		12	4	6	1	1		5	17
Periostitis		1	1						1
Caries		2		1		1		4	6
Synovitis:									
Acute		6	3	2	1				6
Chronic								1	1
Ankylosis		1		1					1
Psoas, lumbar, and other abscesses		1		1					1
Club foot		1		1					1
DISEASES OF THE CONNECTIVE TISSUE	1	26	24	3				23	50
Œdema	1	2	3						3
Inflammation		5	5					3	8
Abscess		19	16	3				20	39
DISEASES OF THE SKIN		53	26	22			5	161	214
Erythema		1	1					2	3
Urticaria								3	3
Eczema		4	2	2				44	48
Intertrigo								1	1
Impetigo								1	1
Rupia								1	1
Pityriasis		1		1					1
Prurigo								1	1
Lichen								2	2
Psoriasis		1		1				3	4
Miliaria								1	1
Herpes								8	8
Zona		1	1					3	4
Acne								1	1
Chilblain		1		1				1	2
Frostbite		6	4	2				2	8
Ulcer		29	13	13			3	55	84
Cicatrices								1	1
Fissures								1	1
Boil		4	4					12	16
Carbuncle		2		2				11	13
Gangrene		1					1		1
Whitlow		1	1					3	4
Corn								1	1
Wen		1					1	3	4
PARASITIC DISEASES OF THE SKIN		1	1					15	16
Ringworm		1	1						1
Tinea versicolor								1	1
Itch								13	13
Phthiriasis								1	1
Poisons		**1**	**1**					**2**	**3**
Metals and their salts		1	1						1
Vegetable poisons								2	2
POISONED WOUNDS								1	1
Venomous animals								1	1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE OHIO—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Injuries	8	184	149	28	......	2	13	164	356
GENERAL INJURIES	......	12	8	2	......	....	2	13	25
Burns and scalds	......	11	8	1	......	....	2	10	21
Heat-stroke	......	......	......	......	......	....	......	2	2
Multiple injury	......	1	......	1	......	....	......	......	1
Exhaustion	......	......	......	......	......	....	......	1	1
LOCAL INJURIES	8	172	141	26	......	2	11	151	331
Strain of muscles	......	3	3	......	......	....	......	8	11
Contusion of scalp	......	1	1	......	......	....	......	1	2
Scalp wound:									
Bone not exposed	......	9	9	......	......	....	......	3	12
Bone exposed	......	1	1	......	......	....	......	......	1
Fracture of the vault of the skull	......	2	1	......	......	1	......	......	2
Contusion of face	......	1	1	......	......	....	......	1	2
Wound of face and mouth	......	4	3	1	......	....	......	3	7
Contusion of the eye	......	2	2	......	......	....	......	2	4
Foreign body in cornea or conjunctiva	......	2	2	......	......	....	......	2	4
Wound of eyelid	......	1	1	......	......	....	......	......	1
Wound of conjunctiva	......	......	......	......	......	....	......	1	1
Foreign body in external meatus	......	......	......	......	......	....	......	1	1
Contusion of the chest	......	5	5	......	......	....	......	6	11
Fracture of the ribs	1	4	3	2	......	....	......	8	13
Wound of parietes of chest	......	......	......	......	......	....	......	1	1
Contusion of back	......	5	4	......	......	....	1	6	11
Sprain of back	1	9	10	......	......	....	......	6	16
Wound of back	......	......	......	......	......	....		1	1
Contusion of abdomen	......	2	1	1	......	....	......	......	2
Wound of parietes of abdomen	......	3	2	......	......	1	......	......	3
Contusion of upper extremities	1	8	7	2	......	....	......	......	9
Sprain of the shoulder	......	7	7	......	......	....	......	......	7
Sprain of the wrist	......	1	1	......	......	....	......	......	1
Wound of the upper extremities	1	25	22	3	......	....	1	......	26
Fracture of the humerus	......	1	1	......	......	....	......	......	1
Fracture of both bones of forearm	......	3	......	3	......	....	......	......	3
Dislocation of the humerus	......	2	1	1	......	....	......	......	2
Contusion of the lower extremities	1	28	26	2	......	....	1	......	29
Sprain of the knee	......	1	1	......	......	....	......	......	1
Sprain of the ankle	......	18	11	6	......	....	1	......	18
Sprain of the foot	......	1	1	......	......	....	......	......	1
Wound of the lower extremities	......	17	10	3	......	....	4	......	17
Fracture of cervix femoris	1	1	......	......	......	....	2	......	2
Fracture of leg, both bones	1	1	......	2	......	....	......	......	2
Fracture of tibia alone	1	......	1	......	......	....	......	......	1
Fracture of phalanges of toes	......	1	1	......	......	....	......	......	1
Dislocation of the knee	......	1	......	......	......	....	1	......	1
Dislocation of the metatarsus and phalanges	......	1	1	......	......	....	......	......	1
Separation of sesamoid bone	......	1	1	......	......	....	......	......	1

THE MISSISSIPPI.

DISEASES.	Remaining under treatment from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
TOTAL CASES	64	1,390	925	393	27	53	56	2,922	4,376
General Diseases	24	716	466	211	16	20	27	1,667	2,407
Cowpox	......	1	1	......	......	....	......	296	297
Chicken-pox	......	......	......	......	......	....	......	1	1
Measles	......	3	3	......	......	....	......	......	3
Influenza	......	23	17	3	......	3	......	51	74
Simple continued fever	......	1	1	......	......	....	......	......	1
Enteric fever	......	6	2	......	......	2	2	......	6
Sporadic cholera	......	2	2	......	......	....	......	......	2

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE MISSISSIPPI—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
General Diseases—Continued.									
Dysentery		19	14	5				34	53
Malarial intermittent fever	3	247	231	13	2	1	3	298	548
Malarial remittent fever		39	30	2		4	3	32	71
Malarial cachexia	1	30	27	2	2			65	96
Phagedæna	1	2	1	1		1		2	5
Erysipelas, simple		10	9	1				3	13
Syphilis:									
Primary		11		11				43	54
Secondary	4	127	11	111	3		6	335	466
Gonorrhœa		24	11	9	1		3	232	256
Animal parasites		2		2				2	4
Effects of excessive venery								1	1
Alcoholism	2	23	21	2	2			18	43
Delirium tremens		3	1	2					3
Supernumerary finger								2	2
Debility		5	3	2				17	22
Rheumatic fever		10	5	5				43	53
Rheumatism	5	86	69	18	2		2	148	239
Osteo-arthritis		2	2						2
Cysts								3	3
Nonmalignant new growth		2	2					6	8
Malignant new growth		1				1		3	4
Tubercle	7	35	2	20	4	8	8	26	68
Scrofula	1	1	1	1					2
Anæmia		1		1				6	7
Local diseases	27	465	301	147	9	15	20	1,057	1,549
DISEASES OF THE NERVOUS SYSTEM	2	22	12	9		1	2	81	105
Hemorrhage cerebral		1		1					1
Inflammation:									
Of membranes of brain and spinal cord								2	2
Of cerebral membranes	1		1						1
Spinal meningitis		1		1				1	2
Myelitis	1	1	1			1			2
Neuritis		1		1					1
Sclerosis		1		1				1	2
Spastic spinal paralysis								2	2
Locomotor ataxia		1		1				1	2
Hemiplegia								1	1
Paraplegia		1	1						1
Local paralysis		3		2			1	2	5
Ophthalmoplegia externa								1	1
Spasm of muscle								3	3
Hyperæsthesia								1	1
Neuralgia		3	3					52	55
Facial		2	2					5	7
Sciatica		2	2						2
Vertigo								4	4
Megrim		2	2					4	6
Epilepsy		3		2			1	1	4
MENTAL DISEASES								1	1
Hypochondriasis								1	1
DISEASES OF THE EYE		7	6	1				14	21
Conjunctivitis		4	4					9	13
Keratitis		2	1	1					2
Cataract								1	1
Dacryocystitis								1	1
Blepharitis								2	2
Stye								1	1
Ectropion		1	1						1

Table VII.—Tabular Statement, by Districts, of Diseases and Injuries Treated during the Year ended June 30, 1893—Continued.

THE MISSISSIPPI—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
Diseases of the Ear	......	6	4	2	......	....	......	8	14
Inflammation of the middle ear	......	6	4	2	......	....	......	5	11
Ulceration of membrana tympani	......	......	......	......	......	....	......	1	1
Tinnitus	......	......	......	......	......	....	......	2	2
Diseases of the Nose	......	2	1	1	......	....	......	16	18
Nasal catarrh	......	2	1	1	......	....	......	16	18
Diseases of the Circulatory System	1	22	......	15	1	4	3	23	46
Pericarditis	......	2	......	1	......	1	......	......	2
Endocarditis	......	1	......	1	......	....	......	......	1
Valvular disease:									
Aortic	......	3	......	1	......	2	......	3	6
Mitral	......	10	......	7	......	....	3	8	18
Hypertrophy of heart	......	1	......	1	......	....	......	7	8
Degeneration of heart, fatty	......	......	......	......	......	....	......	1	1
Dilatation of heart	......	1	......	1	......	....	......	......	1
Palpitation and irregular action of heart	......	1	......	1	......	....	......	3	4
Aneurism of arteries	1	2	......	1	1	1	......	......	3
Phlebitis	......	......	......	......	......	....	......	1	1
Varix	......	1	......	1	......	....	......	......	1
Diseases of the Respiratory System	3	67	39	24	1	3	3	219	289
Hay asthma	......	......	......	......	......	....	......	1	1
Laryngitis:									
Acute	......	1	1	......	......	....	......	1	2
Catarrhal	......	......	......	......	......	....	......	1	1
Bronchitis:									
Acute	1	24	19	5	1	....	......	165	190
Chronic	......	8	......	8	......	....	......	18	26
Catarrhal	......	......	......	......	......	....	......	8	8
Spasmodic asthma	1	2	......	2	......	....	1	5	8
Passive congestion of lung	......	......	......	......	......	....	......	1	1
Hemorrhage of lung	......	1	1	......	......	....	......	2	3
Pneumonia	......	20	14	2	......	3	1	10	30
Cirrhosis of lung	......	......	......	......	......	....	......	1	1
Pneumonic phthisis:									
Acute	......	1	......	1	......	....	......	......	1
Chronic	......	......	......	......	......	....	......	2	2
Emphysema	......	1	......	1	......	....	......	......	1
Collapse	......	......	......	......	......	....	......	2	2
Pleurisy:									
Acute	......	6	2	4	......	....	......	2	8
Chronic	1	1	......	1	......	....	1	......	2
Empyema	......	2	2	......	......	....	......	......	2
Diseases of the Digestive System	4	128	96	25	2	5	4	370	502
Stomatitis	......	......	......	......	......	....	......	3	3
Abscess of the antrum	......	1	1	......	......	....	......	......	1
Caries of dentine and cementum	......	......	......	......	......	....	......	2	12
Abscess of dental periosteum	......	1	1	......	......	....	......	......	1
Ulceration of gums and alveoli	......	......	......	......	......	....	......	1	1
Hypertrophy of tonsils	......	......	......	......	......	....	......	1	1
Sore throat	......	1	1	......	......	....	......	17	18
Quinsy	......	2	2	......	......	....	......	6	8
Follicular tonsilitis	......	5	3	2	......	....	......	8	13
Follicular inflammation of the pharynx	......	4	3	1	......	....	......	14	18
Post-pharyngeal abscess	......	1	1	......	......	....	......	......	1
Stricture of œsophagus	......	......	......	......	......	....	......	1	1
Inflammation of the stomach	......	10	6	3	......	1	......	15	25
Dyspepsia	......	2	1	1	......	....	......	38	40
Gastrodynia	......	1	1	......	......	....	......	......	1
Vomiting	1	......	1	......	......	....	......	2	3

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE MISSISSIPPI—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE DIGESTIVE SYSTEM—Continued.									
Inflammation of the intestines:									
Catarrhal		29	24	4			1	26	55
Ulcerative		15	11	2		2		13	28
Hernia		8	6	1		1		62	70
Diarrhœa		23	19	2	1		1	71	94
Constipation								48	48
Colic		3	3					3	6
Ulceration of the rectum		2		2				4	6
Piles:									
Internal		6	2	3			1	5	11
External	1	6	6	1				8	15
Prolapsus of the rectum		2	1	1					2
Fistula in ano	1	1	1		1			5	7
Fissure of the anus		1					1		1
Hypertrophy of the liver								1	1
Congestion of the liver								1	1
Cirrhosis of liver		1		1					1
Lardaceous liver	1					1			1
Jaundice		1	1					3	4
Inflammation of hepatic ducts and gall bladder								2	2
Peritonitis		2	1	1					2
DISEASES OF THE LYMPHATIC SYSTEM	2	21	16	5			2	18	41
Hypertrophy of the spleen								1	1
Hypertrophy of lymph glands								1	1
Inflammation of lymph vessels		3	2	1				10	13
Suppuration of lymph vessels	2	18	14	4			2	6	26
DISEASES OF THE URINARY SYSTEM	2	15	4	10	1		2	20	37
Acute nephritis	1	3	1	2	1			1	5
Bright's disease	1	6	1	5			1		7
Diabetes insipidus								1	1
Lithuria								2	2
Inflammation of bladder:									
Acute		5	2	2			1	5	10
Subacute		1		1				2	3
Chronic								4	4
Incontinence of urine								5	5
DISEASES OF THE GENERATIVE SYSTEM	7	94	64	35		1	1	159	260
Urethritis								5	5
Gleet								3	3
Urinary abscess		1	1						1
Stricture of urethra, organic	1	16	6	9		1	1	15	32
Inflammation of glans penis								3	3
Ulcer of penis	5	65	49	21				99	169
Phimosis								1	1
Paraphimosis								3	3
Abscess of the scrotum		1	1						1
Varicocele								3	3
Hydrocele of tunica vaginalis								2	2
Orchitis:									
Acute		2	1	1				16	18
Chronic								1	1
Epididymitis	1	7	5	3					8
Spermatorrhœa								2	2
Impotence								1	1
Inflammation of the ovary		1	1						1
Cyst of the ovary								1	1
Hypertrophy of the uterus		1		1				2	3
Amenorrhœa								2	2
DISEASES OF THE ORGANS OF LOCOMOTION	1	15	11	4		1		17	33
Ostitis								3	3

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE MISSISSIPPI—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE ORGANS OF LOCOMOTION—Continued.									
Periostitis		3	3					6	9
Necrosis	1	3	1	2		1			4
Synovitis:									
Acute		6	5	1				5	11
Chronic								1	1
Abscess of joints		1	1						1
Angular curvature of spine		1		1					1
Club foot								1	1
Inflamed bursa								1	1
Bursal abscess		1	1						1
DISEASES OF THE CONNECTIVE TISSUE	2	22	17	7				21	45
Œdema								1	1
Inflammation	1	4	3	2				2	7
Abscess	1	18	14	5				18	37
DISEASES OF THE SKIN	3	41	30	9	2		3	89	133
Erythema								2	2
Urticaria								5	5
Eczema		4	1	2	1			14	18
Pityriasis								1	1
Lichen								2	2
Herpes								6	6
Zona		2	1	1				1	3
Acne								1	1
Sycosis		1	1						1
Frostbite		4	3	1				2	6
Ulcer	1	18	11	4	1		3	29	48
Cicatrices	1			1				2	3
Boil		4	4					13	17
Carbuncle		1	1					2	3
Whitlow		4	4					8	12
Lupus	1	2	3					1	4
Cheloid		1	1						1
PARASITIC DISEASES OF THE SKIN		3	1		2			1	4
Itch		1	1					1	2
Unclassified		2			2				2
Poisons		**3**	**2**	**1**				**8**	**11**
Metals and their salts		1		1				4	5
Vegetable poisons		2	2					4	6
POISONED WOUNDS								1	1
Vegetable substances								1	1
Injuries	**13**	**206**	**156**	**34**	**2**	**18**	**9**	**189**	**408**
GENERAL INJURIES	1	31	14	4		14		15	47
Burns and scalds		29	12	3		14		12	41
Effects of cold								3	3
Multiple injury	1	2	2	1					3
LOCAL INJURIES	12	175	142	30	2	4	9	174	361
Division of nerve		1		1				1	2
Strain of muscles		1	1					14	15
Rupture of muscles								1	1
Abrasion of skin								1	1
Foreign body in subcutaneous tissue								2	2
Scalp wound:									
Bone not exposed		8	5	2		1		10	18
Bone exposed		1					1		1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE MISSISSIPPI—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Injuries—Continued.									
LOCAL INJURIES—Continued.									
Fracture of the vault of the skull		2		1			1		2
Contusion of face								3	3
Wound of face and mouth		6	4	1			1	3	9
Fracture of facial bones		1	1						1
Contusion of the eye		1	1						1
Contusion of the eye with rupture of sclerotic		1	1						1
Foreign body in cornea or conjunctiva								1	1
Wound of eyelid		1	1						1
Wound of the cornea		1			1				1
Wound of pinna		1		1					1
Contusion of soft parts of neck		2	2					1	3
Wound of neck		4	4						4
Foreign body in the pharynx								1	1
Foreign body in the œsophagus								1	1
Contusion of the chest	1	4	5					1	6
Fracture of the ribs		6	5	1				1	7
Wound of parietes of chest								4	4
Perforating wound of chest		2	1	1					2
Contusion of back		6	4	2				4	10
Sprain of back		3	2	1				11	14
Wound of back		4	3	1				1	5
Contusion of abdomen		1	1						1
Wound of parietes of abdomen		1				1			1
Contusion of the urethra, perineum, scrotum, and penis								1	1
Contusion of testicle		1	1					1	2
Contusion of upper extremities	1	8	7	2				27	36
Sprain of the shoulder								2	2
Sprain of the wrist		1	1					4	5
Sprain of the fingers								1	1
Wound of the upper extremities	3	26	19	10				29	58
Fracture of the clavicle		2	2						2
Fracture of the humerus		1	1						1
Fracture of the radius		2	2					1	3
Fracture of the ulna	1		1						1
Fracture of carpus, metacarpus, and phalanges		6	4	2				2	8
Dislocation of the humerus	1		1						1
Dislocation of the ulna		1	1						1
Contusion of the lower extremities	2	26	25	1			2	15	43
Sprain of the knee		3	3					1	4
Sprain of the ankle		9	6	2	1			9	18
Sprain of the foot	1		1					1	2
Wound of the lower extremities		17	16	1				11	28
Fracture of femur		2				2			2
Fracture of leg, both bones	1	2	3					1	4
Fracture of tibia alone	1	4	3				2	2	7
Fracture of fibula alone		4	3				1	1	5
Fracture of metatarsus		1					1	1	2
Fracture of phalanges of toes								2	2
AMPUTATIONS		1	1					1	2
Amputation of fingers								1	1
Amputation of thigh		1	1						1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE GREAT LAKES.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
TOTAL CASES	**196**	**172,5**	**1,714**	**680**	**88**	**75**	**156**	**9,307**	**12,020**
General Diseases	**92**	**1,073**	**726**	**292**	**34**	**40**	**73**	**4,656**	**5,821**
Cowpox		4	4					1,084	1,088
Measles		5	5						5
Scarlet fever		1	1						1
Influenza		65	49	9		3	4	55	120
Mumps		7	6	1				2	9
Simple continued fever	3	33	30	4			2	22	58
Enteric fever	11	138	129	5		6	9	23	172
Typho-malarial fever		1	1						1
Sporadic cholera		4	4					2	6
Epidemic diarrhea								23	23
Dysentery	1	9	8	1			1	12	22
Malarial intermittent fever	4	79	71	8			4	194	277
Malarial remittent fever	4	35	34	3		1	1	8	47
Malarial cachexia		1	1					3	4
Phagedæna		1	1					1	2
Erysipelas, simple	1	16	16	1				9	26
Syphilis:									
Primary	1	23	8	13	1		2	69	93
Secondary	7	119	11	98	4	3	10	807	933
Gonorrhœa	14	89	65	27	3		8	1,179	1,282
Animal parasites		2	2					7	9
Vegetable parasites								3	3
Effects of excessive venery								1	1
Alcoholism	3	68	55	4	5	3	4	68	139
Delirium tremens		4	3	1				5	9
Retained testicle								1	1
Debility		10	8	2				157	167
Rheumatic fever	9	39	36	9		1	2	10	58
Rheumatism	10	232	171	55	6	1	9	794	1,036
Osteo-arthritis	1	3	1	2			1		4
Nonmalignant new growth	1	4	4	1				22	27
Malignant new growth	2	4	2	1	1	1	1		6
Tubercle	20	76		47	14	20	15	87	183
Scrofula								1	1
Anæmia								7	7
Leucocythæmia		1				1			1
Local Diseases	**70**	**960**	**610**	**297**	**43**	**28**	**52**	**4,012**	**5,042**
DISEASES OF THE NERVOUS SYSTEM	10	76	31	35	8	1	11	195	281
Hemorrhage, cerebral		1				1			1
Inflammation of cerebral membranes		1					1		1
Myelitis		3		3				2	5
Neuritis		9	5	4				13	22
Sclerosis	1						1	2	3
Progressive muscular atrophy								1	1
Locomotor ataxy	4	5		2	2		5	9	18
Hemiplegia	3	3		2	1		3	7	13
Local paralysis	1	6	1	6				5	12
Spasm of muscle		2	2					1	3
Wry-neck								4	4
Paralysis agitans		1					1		1
Neurosis								1	1
Neurolgia		10	8	1	1			105	115
Facial		2	1	1				22	24
Sciatica	1	19	12	8				8	28
Vertigo		1	1					1	2
Megrim		1	1					9	10
Epilepsy		12		8	4			4	16
Hysteria								1	1
MENTAL DISEASES		1			1			2	3
Hypochondriasis								2	2
Insanity		1			1				1

Table VII.—Tabular Statement, by Districts, of Diseases, and Injuries Treated during the Year ended June 30, 1893—Continued.

THE GREAT LAKES—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE EYE	2	26	17	7	2		2	73	101
Ecchymosis of the conjunctiva		1	1						1
Conjunctivitis	2	12	10	2	2			59	73
Pterygium								2	2
Keratitis		3		2			1		3
Ulcer of cornea		2	2						2
Iritis		3	2	1				4	7
Atrophy of optic disc or papilla								1	1
Cataract		2	1				1	1	3
Squint		1		1					1
Abscess of lachrymal gland		1	1						1
Hæmatoma								1	1
Blepharitis								2	2
Stye								1	1
Abscess of eyelid		1		1					1
Trichiasis								1	1
Chalazion								1	1
DISEASES OF THE EAR	2	5	4	2			1	34	41
Inflammation of the external meatus, acute								2	2
Abscess of the external meatus		1	1					1	2
Accumulation of wax								16	16
Inflammation of the middle ear	2	4	3	2			1	14	20
Perforation of membrana tympani								1	1
DISEASES OF THE NOSE								67	67
Epistaxis								1	1
Inflammation								2	2
Nasal catarrh								61	61
Ozæna								1	1
Perforation of the septum								2	2
DISEASES OF THE CIRCULATORY SYSTEM	5	56	6	35	6	9	5	67	128
Pericarditis		1	1						1
Endocarditis		1			1				1
Valvular disease:									
Aortic	1	5		2		3	1	2	8
Mitral	3	31		25	3	5	1	23	57
Hypertrophy of heart								1	1
Degeneration of heart, fatty		2		2				1	3
Dilatation of heart		3		2		1		2	5
Angina pectoris		1	1					1	2
Palpitation and irregular action of heart		1		1				18	19
Degeneration of arteries	1	1					2	1	3
Aneurism of arteries		2			1		1	4	6
Phlebitis		1		1				1	2
Varix		7	4	2	1			13	20
DISEASES OF THE RESPIRATORY SYSTEM	12	210	135	59	12	8	8	1,056	1,278
Laryngitis:									
Acute		2	1	1				7	9
Chronic								2	2
Bronchitis:									
Acute	4	119	90	25	3	2	3	874	997
Chronic	2	14	3	10	3			126	142
Catarrhal		1		1				4	5
Spasmodic asthma		7	3	4				11	18
Passive congestion of lung		1		1					1
Hemorrhage of lung		5	3	1			1	5	10
Pneumonia	1	26	20	1		4	2		27
Cirrhosis of lung	1						1		1
Pneumonic phthisis:									
Acute		4		2	2			1	5
Chronic	2	4		3	3			1	7
Emphysema		1		1					1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE GREAT LAKES—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE RESPIRATORY SYSTEM—Continued.									
Hydrothorax								1	1
Pleurisy:									
Acute	1	21	14	5	1	1	1	11	33
Chronic	1	4	1	4				13	18
Empyema		1				1			1
DISEASES OF THE DIGESTIVE SYSTEM	8	169	116	44	3	7	7	1,166	1,343
Ulcer of the lips								1	1
Stomatitis								4	4
Ulcerative stomatitis								2	2
Cyst of the mouth								1	1
Ulceration of the dental pulp								1	1
Caries of dentine and cementum								14	14
Abscess of dental periosteum								6	6
Inflammation of gums and alveoli								3	3
Ulceration of gums and alveoli								3	3
Toothache								2	2
Inflammation of the tongue								1	1
Ulcer of the tongue								4	4
Hypertrophy of tonsils								2	2
Elongated uvula								3	3
Sore throat	1	2		3				89	92
Quinsy		2	1		1			15	17
Follicular tonsilitis		10	8	2				31	41
Ulceration of fauces		1	1					2	3
Inflammation of salivary glands								3	3
Follicular inflammation of the pharynx		3	3					25	28
Inflammation of the stomach	1	22	18	4		1		41	64
Ulceration of the stomach		2	1				1	1	3
Dyspepsia		9	6	2	1			272	281
Gastrodynia		1	1					3	4
Vomiting								2	2
Hemorrhage of the intestines		15	12	2	1			49	64
Inflammation of the intestines, catarrhal	3	10	8	2		2	1	1	14
Abscess in the sub-peritoneal tissue	1	2	2			1			3
Obstruction of the intestines		2	2						2
Hernia		11	5	6				112	123
Abdominal fistula		1		1					1
Diarrhœa	1	33	25	6		1	2	187	221
Constipation		7	5	2				122	129
Colic		4	3	1				26	30
Ulceration of the rectum								2	2
Piles:									
Internal		7	3	4				28	35
External		1	1					33	34
Prolapsus of the anus		1	1						1
Fistula in ano	1	3	3	1				4	8
Fissure of the anus								2	2
Pruritus ani								2	2
Congestion of the liver		3	1	1			1	52	55
Hepatitis		1	1					3	4
Perihepatitis		5		4		1			5
Jaundice		4	3	1				10	14
Inflammation of hepatic ducts and gall-bladder		2		1			1		2
Gallstones		1	1						1
Peritonitis		4	1	1		1	1	2	6
DISEASES OF THE LYMPHATIC SYSTEM	10	68	45	28	2		3	99	177
Hypertrophy of the spleen								2	2
Splenitis								1	1
Hypertrophy of lymph glands		1			1				1
Inflammation of lymph vessels	1	3	3	1				2	6

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE GREAT LAKES—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE LYMPHATIC SYSTEM—Continued.									
Inflammation of lymph glands	6	24	16	12	1		1	61	91
Suppuration of lymph glands	3	40	26	15			2	33	76
DISEASES OF THE THYROID BODY								3	3
Goitre								3	3
DISEASES OF THE URINARY SYSTEM	1	26	8	13	2	3	1	85	112
Congestion of kidney								2	2
Acute nephritis		2		2				9	11
Bright's disease		8		5	1	2		8	16
Pyelitis								1	1
Abcess of kidney		1		1					1
Calculus in ureter		1	1					1	2
Diabetes insipidus		2		1	1			1	3
Lithuria								4	4
Phosphuria								1	1
Inflammation of bladder:									
Acute	1	8	6	1		1	1	33	42
Subacute		1		1				1	2
Chronic								6	6
Calculus of blander	1	2		2					2
Irritability of bladder								13	13
Retention of urine		1	1					2	3
Incontinence of urine								3	3
DISEASES OF THE GENERATIVE SYSTEM	6	120	98	26	1		1	566	692
Urethritis								20	20
Gleet								22	22
Ulcer of the urethra								1	1
Stricture of urethra, organic		14	7	7				77	91
Urinary fistula	2		1	1				2	4
Hypertrophy of prostate gland		1		1				1	2
Acute inflammation of prostate gland		2	1	1				1	3
Inflammation of the penis		1					1		1
Inflammation of glans penis								22	22
Ulcer of penis		56	45	10	1			302	358
Phimosis		5	5					2	7
Œdema of the scrotum		1	1						1
Abcess of the scrotum	1		1					2	3
Varicocele		3	2	1				7	10
Hydrocele of tunica vaginalis		4	4					3	7
Atrophy of testicle								1	1
Orchitis:									
Acute	1	23	23	1				28	52
Chronic								9	9
Epididymitis		4	4					22	26
Spermatorrhœa								22	22
Pelvic cellulitis		1		1					1
Inflammation of the uterus	2		1	1					2
Ulcer of the uterus		1		1					1
Displacements and distortions of the uterus								1	1
Inflammation of the vagina		1	1						1
Abscess of the vulva		1	1						1
Dysmenorrhœa		1		1				2	3
Menorrhagia								1	1
Leucorrhœa		1	1					17	18
Premature labor								1	1
DISEASES OF THE ORGANS OF LOCOMOTION	6	37	20	19	1		3	40	83
Periostitis		5	4	1				10	15
Caries	1			1					1
Necrosis	1	5	1	4			1	5	11

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE GREAT LAKES—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE ORGANS OF LOCOMOTION—Continued.									
Ununited fracture, or false joint		1					1		1
Dropsy of joints		1	1						1
Synovitis:									
Acute	2	7	7	1			1	4	13
Chronic		4		4				4	8
Abscess of joints	1	1	2						2
Ankylosis		3		3				3	6
Loose body in joint								2	2
Atrophy of muscles								1	1
Inflammation of muscles								1	1
Abscess of muscles		2	1	1					2
Contraction of muscles		1		1					1
Contraction of tendons and fasciæ	1	1	1	1				1	3
Talipes		2		1	1				2
Inflamed bursa		2	2					5	7
Ganglion		2	1	1				4	6
DISEASES OF THE CONNECTIVE TISSUE	2	55	44	9	2		2	74	131
Œdema								4	4
Inflammation		8	6	2				12	20
Abscess	2	47	38	7	2		2	58	107
DISEASES OF THE SKIN	6	110	86	19	3		8	419	535
Erythema	1	1	2					9	11
Urticaria								19	19
Eczema	1	16	11	3			3	113	130
Impetigo								2	2
Pityriasis		1	1	1				2	3
Prurigo								1	1
Lichen		1		1				3	4
Psoriasis		1	1					26	27
Miliaria								4	4
Herpes								12	12
Zona								8	8
Pemphigus								1	1
Acne								11	11
Sycosis								1	1
Freckles								1	1
Frostbite		12	12					7	19
Ulcer	3	48	33	12	2		4	82	133
Cicatrices		1	1						1
Fissures								1	1
Boil		5	3	1	1			59	64
Carbuncle	1	6	6				1	6	13
Whitlow		12	10	2				27	39
Onychia		4	4					3	7
Corn								6	6
Wen		2	2					6	8
Pruritus								8	8
Hyperidrosis								1	1
PARASITIC DISEASES OF THE SKIN		1		1				66	67
Ringworm								8	8
Tinea versicolor								7	7
Itch		1		1				43	44
Phthiriasis								5	5
Irritation by stinging plants								1	1
Unclassified								2	2
Poisons		**3**	**1**		**2**			**4**	**7**
Metals and their salts								1	1
Vegetable poisons		3	1		2			3	6

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE GREAT LAKES—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Poisons—Continued.									
POISONED WOUNDS		1	1					3	4
Venomous animals		1	1					2	3
Vegetable substances								1	1
Injuries	**34**	**480**	**376**	**91**	**9**	**7**	**31**	**632**	**1,146**
GENERAL INJURIES	3	40	27	7	1	4	4	46	89
Burns and scalds	1	22	16	1		3	3	28	51
Effects of cold								7	7
Heat stroke		9	6	2	1			11	20
Multiple injury	2	9	5	4		1	1		11
LOCAL INJURIES	31	440	349	84	8	3	27	586	1,057
Contusion of nerves		1					1	1	2
Strain of muscles		2	2					26	28
Abrasion of skin		1	1						1
Foreign body in subcutaneous tissue								4	4
Contusion of scalp		6	5	1				7	13
Scalp wound:									
Bone not exposed		19	17	2				29	48
Bone exposed		7	5	2				6	13
Contusion of skull		1		1					1
Fracture of the vault of the skull		3	3						3
Fracture of the base of the skull								1	1
Concussion of brain		3	1	1			1		3
Contusion of face	1	10	7	4				2	13
Wound of face and mouth	1	12	12	1				25	38
Fracture of facial bones		7	3	3			1	1	8
Dislocation of the lower jaw		1	1					1	2
Contusion of the eye		3	2		1			2	5
Foreign body in cornea or conjunctiva								16	16
Wound of eyelid		1	1					3	4
Wound of the cornea		2	2						2
Wound of the parts within the orbit		1		1					1
Wound of pinna								2	2
Foreign body in external meatus								2	2
Wound of neck								1	1
Contusion of the chest		21	19	1			1	29	50
Fracture of the ribs	1	12	8	2			3	7	20
Fracture of the sternum		1	1						1
Wound of parietes of chest		1	1					2	3
Perforating wound of chest		1	1						1
Penetrating wound of pleura, or lung		1	1						1
Contusion of back		24	21	3				18	42
Sprain of back	1	14	12	2	1			21	36
Wound of back		2	2					4	6
Fracture of spine		2				1	1		2
Dislocation of spine		1				1			1
Concussion of cord		1					1	2	3
Contusion of abdomen		2	2					1	3
Wound of rectum		1	1						1
Fracture and dislocation of pelvis		4	2		1	1			4
Contusion of testicle		1	1					5	6
Contusion of upper extremities	3	21	15	8			1	71	95
Sprain of the shoulder								4	4
Sprain of the elbow	1	3	4					1	5
Sprain of the wrist	1	8	9					24	33
Sprain of the fingers		1	1					5	6
Wound of the upper extremities	3	49	37	9	1		5	106	158
Wound of joint, upper extremities								1	1
Fracture of the clavicle	1	6	4	1	2			2	9
Fracture of the humerus	1	4	1	4				1	6
Fracture of the radius	1	8	9					2	11
Fracture of the ulna		1	1						1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE GREAT LAKES—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admited during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Injuries—Continued.									
LOCAL INJURIES—Continued.									
Fracture of both bones of forearm		5	5					1	6
Fracture of carpus, metacarpus, and phalanges	1	5	4		1		1	10	16
Dislocation of the humerus		3	3					1	4
Dislocation of the radius		1	1						1
Dislocation of the ulna		1	1						1
Dislocation of the metacarpus								1	1
Contusion of the lower extremities	3	41	38	5			1	58	102
Sprain of the knee		6	4	2				11	17
Sprain of the ankle	2	43	29	15	1			24	69
Sprain of the foot		1					1	3	4
Wound of the lower extremities	3	38	29	8			4	27	68
Fracture of femur	1	3	2	1			1		4
Fracture of cervix femoris	1	1	1	1					2
Fracture of patella	1	2	1	2					3
Fracture of leg, both bones	3	6	4	3			2	3	12
Fracture of tibia alone	1	5	6					4	10
Fracture of fibula alone		2	2					1	3
Fracture of metatarsus		2	1	1				1	3
Dislocation of the femur at the hip		1	1						1
Dislocation of the knee		1					1		1
Dislocation of the foot at the ankle		1	1						1
AMPUTATIONS		2	1				1	6	8
Amputation of fingers		2	1				1	6	8

THE PACIFIC.

DISEASES.	Remaining under treatment from previous year.	Admited during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
TOTAL CASES	**159**	**1,611**	**770**	**740**	**49**	**66**	**145**	**3,834**	**5,604**
General Diseases	**52**	**628**	**249**	**326**	**18**	**31**	**56**	**1,549**	**2,229**
Cowpox								1	1
Influenza		11	11					19	30
Mumps		1	1					3	4
Simple continued fever		2	2						2
Enteric fever	2	22	21			1	2	1	25
Dysentery	2	12	4	6		1	3	6	20
Malarial intermittent fever		34	29	4	1			75	109
Malarial remittent fever	1	26	19	6	1		1	5	32
Malarial cachexia		4	1	3				49	53
Erysipelas, simple	1	19	18				2	4	24
philis:									
Primary	1	11		11			1	37	49
Secondary	11	107	1	106	1	1	9	433	551
Gonorrhœa	5	68	19	44	1	1	8	508	581
Animal parasites								12	12
Scurvy	1	26	10	15		1	1	2	29
Alcoholism	1	21	15	5	1		1	27	49
Cleft palate		1	1						1
Debility	1	13	9	3			2	39	53
Rheumatic fever	6	73	43	28			8	39	118
Rheumatism	6	95	39	50	4	2	6	211	312
Osteo-arthritis	1	2		1		1	1	1	4
Cysts								1	1
Nonmalignant new growth	1	7	3	3	1		1	15	23
Malignant new growth		5	2	2			1		5
Tubercle	12	64	1	36	8	22	9	58	134
Scrofula		2		2					2
Anæmia		1		1				2	3
Diabetes mellitus		1				1		1	2

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE PACIFIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases	**76**	**651**	**308**	**305**	**28**	**30**	**56**	**1,815**	**2,542**
DISEASES OF THE NERVOUS SYSTEM	16	40	12	28	2	5	9	99	155
Congestion of brain	1			1					1
Hemorrhage, cerebral	1						1		1
Inflammation of spinal cord and its membranes		2		2					2
Myelitis		2		1			1		2
Softening of brain or cord		1			1				1
Sclerosis		1		1				1	2
Progressive muscular atrophy		2		2					2
Spastic spinal paralysis	1						1		1
Locomotor ataxy	1	4		4		1		5	10
Apoplexy		1		1					1
Hemiplegia	4	4		2		3	3	20	28
Paraplegia		2		2					2
Local paralysis	2	4	1	2		1	2	4	10
Spasm of muscle								1	1
Wryneck								1	1
Aphasia								1	1
Neuralgia	1	8	8	1				38	47
Facial								6	6
Sciatica	2	4	1	5				8	14
Vertigo	2		1	1				3	5
Megrim								1	1
Epilepsy	1	3		3			1	10	14
Hysteria		2	1		1				2
MENTAL DISEASES		1		1				5	6
Hypochondriasis		1		1				4	5
Melancholia								1	1
DISEASES OF THE EYE	3	10	4	5	4			55	68
Ecchymosis of the conjunctiva								1	1
Conjunctivitis		3	2		1			33	36
Keratitis		1	1					4	5
Ulcer of cornea		1		1				1	2
Opacity of cornea		1			1				1
Staphyloma								1	1
Iritis		3	1	2				4	7
Atrophy of optic disc or papilla								1	1
Retinitis		1			1				1
Cataract								1	1
Ametropia								1	1
Night blindness								1	1
Muscæ volitantis								2	2
Amblyopia	1				1				1
Amaurosis	1			1					1
Dacryocystitis								1	1
Stricture of nasal duct								1	1
Blepharitis	1			1					1
Stye								2	2
Chalazion								1	1
DISEASES OF THE EAR		4	1	3				23	27
Inflammation of the external meatus, acute								2	2
Abscess of the external meatus								1	1
Accumulation of wax								7	7
Inflammation of the middle ear		4	1	3				11	15
Obstruction of Eustachian tube								2	2
DISEASES OF THE NOSE		6	1	5				72	78
Hypertrophy								2	2
Inflammation								3	3
Nasal catarrh		6	1	5				66	72
Ozæna								1	1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE PACIFIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE CIRCULATORY SYSTEM	4	28	......	21	2	5	4	40	72
Endocarditis	......	2	......	2	......	....	......	......	2
Valvular disease:									
Aortic	2	6	......	7	......	....	1	5	13
Mitral	......	5	......	3	......	1	1	12	17
Hypertrophy of heart	......	3	......	2	1	....	......	3	6
Degeneration of heart, fatty	......	2	......	1	......	1	......	1	3
Palpitation and irregular action of heart	......	4	......	4	......	....	......	7	11
Aneurism of arteries	1	4	......	1	......	3	1	......	5
Obstruction of arteries	1	......	......	......	......	....	1	1	2
Phlebitis	......	......	......	......	......	....	......	1	1
Varix	......	2	......	1	1	....	......	6	8
Thrombosis	......	......	......	......	......	....	......	4	4
DISEASES OF THE RESPIRATORY SYSTEM	11	113	68	40	3	7	6	337	461
Laryngitis:									
Acute	......	......	......	......	......	....	......	5	5
Chronic	......	......	......	......	......	....	......	2	2
Catarrhal	......	......	......	......	......	....	......	1	1
Bronchitis:									
Acute	3	31	23	10	1	....	......	227	261
Chronic	2	13	5	9	......	....	1	59	74
Catarrhal	......	1	1	......	......	....	......	......	1
Spasmodic asthma	1	8	2	6	......	....	1	12	21
Passive congestion of lung	......	2	1	......	1	....	......	1	3
Hemorrhage of lung	......	3	......	2	1	....	......	3	6
Pneumonia	2	29	24	3	......	3	1	2	33
Cirrhosis of lung	......	......	......	......	......	....	......	1	1
Pneumonic phthisis, chronic	......	2	......	......	......	2	......	......	2
Emphysema	......	1	......	1	......	....	......	......	1
Pleurisy:									
Acute	1	18	9	8	......	....	2	19	38
Chronic	......	2	1	1	......	....	......	1	3
Empyema	2	3	2	......	......	2	1	4	9
DISEASES OF THE DIGESTIVE SYSTEM	7	105	65	37	2	4	4	432	544
Ulcer of the lips	......	......	......	......	......	....	......	1	1
Stomatitis	......	1	1	......	......	....	......	......	1
Ulcerative stomatitis	1	......	1	......	......	....	......	1	2
Abscess of the antrum	......	1	......	......	......	....	1	1	2
Caries of dentine and cementum	......	......	......	......	......	....	......	23	23
Abscess of dental periosteum	......	2	1	1	......	....	......	5	7
Inflammation of gums and alveoli	......	......	......	......	......	....	......	1	1
Toothache	......	......	......	......	......	....	......	1	1
Sore throat	......	2	1	1	......	....	......	38	40
Quinsy	......	4	4	......	......	....	......	3	7
Follicular tonsilitis	......	9	7	2	......	....	......	31	40
Ulceration of fauces	......	1	1	......	......	....	......	......	1
Inflammation of salivary glands	......	......	......	......	......	....	......	2	2
Salivation	......	1	1	......	......	....	......	1	2
Follicular inflammation of the pharynx	......	1	......	1	......	....	......	5	6
Ulceration of the pharynx	......	1	1	......	......	....	......	......	1
Inflammation of the stomach	......	15	7	7	......	1	......	66	81
Dilatation of the stomach	......	1	......	1	......	....	......	4	5
Dyspepsia	2	15	8	9	......	....	......	60	77
Inflammation of the intestines:									
Catarrhal	1	1	1	1	......	....	......	6	8
Ulcerative	......	5	4	......	......	1	......	1	6
Ulcer of the intestines	......	1	......	1	......	....	......	......	1
Obstruction of the intestines	......	1	1	......	......	....	......	......	1
Hernia	......	13	7	4	......	1	......	53	66
Diarrhœa	1	6	6	1	......	....	......	34	41
Constipation	......	......	......	......	......	....	......	38	38
Colic	......	......	......	......	......	....	......	1	1
Abscess of the rectum	......	3	3	......	......	....	......	3	6

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE PACIFIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE DIGESTIVE SYSTEM—Continued.									
Piles:									
Internal		6	4	2				18	24
External		1					1	9	10
Fistula in ano	1	5	3	1	1		1	10	16
Congestion of the liver	1		1					5	6
Hepatitis		4	1	2			1	5	9
Cirrhosis of liver		1		1					1
Jaundice		1		1				6	7
Peritonitis		3	1	1		1			3
DISEASES OF THE LYMPHATIC SYSTEM	3	42	22	17	1		5	70	115
Inflammation of lymph glands	3	24	16	11				32	59
Suppuration of lymph glands		18	6	6	1		5	38	56
DISEASES OF THE URINARY SYSTEM	4	39	7	23		9	4	43	86
Acute nephritis		6	1	3		2		1	7
Bright's disease	3	16		10		6	3	10	29
Pyelitis		1		1					1
Movable kidney								1	1
Hæmaturia		2		2					2
Inflammation of bladder:									
Acute		7	3	4				21	28
Subacute		1	1					2	3
Chronic		2		1			1	4	6
Calculus of bladder		1	1						1
Irritability of bladder	1	2	1	2				2	5
Retention of urine		1				1		2	3
DISEASES OF THE GENERATIVE SYSTEM	12	93	40	55	6		4	304	409
Urethritis		1		1				8	9
Gleet		1		1				9	10
Urinary abcess	1	1		2					2
Stricture of urethra:									
Organic	7	30	9	24	3		1	108	145
Traumatic		1		1					1
Urinary fistula		2		2					2
Chronic inflammation of prostate gland								3	3
Abcess of prostate gland		1		1					1
Inflammation of glans penis								5	5
Abscess of penis		1		1					1
Ulcer of penis	3	24	12	12			3	116	143
Phimosis	1	2	2	1				2	5
Paraphimosis		1		1				1	2
Abscess of the scrotum		1		1					1
Hydrocele of spermatic cord		1			1				1
Varicocele		3	1		2			7	10
Hydrocele of tunica vaginalis		3	2	1				5	8
Orchitis:									
Acute		12	8	4				14	26
Chronic								3	3
Epididymitis		7	5	2				5	12
Spermatorrhœa								18	18
Inflammation of the uterus		1	1						1
DISEASES OF THE ORGANS OF LOCOMOTION	4	30	11	13	4		6	32	66
Ostitis								3	3
Periostitis		1		1				1	2
Caries		3	1	2				4	7
Necrosis	2	9	5	4	2			4	15
Synovitis:									
Acute		3	1	1			1	4	7
Chronic		4			1,		3	1	5

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE PACIFIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
DISEASES OF THE ORGANS OF LOCOMOTION—Continued.									
Ankylosis		1	1					1	2
Degeneration of cartilage	1						1		1
Relaxation of ligaments		1		1					1
Psoas, lumbar, and other abscesses		1					1		1
Inflammation of muscles								2	2
Abcess of muscles		2		2				3	5
Hypertrophy of muscles	1				1				1
Atrophy of muscles		2		2					2
Inflammation of tendons								3	3
Inflamed bursa		3	3					5	8
Ganglion								1	1
DISEASES OF THE CONNECTIVE TISSUE	3	40	22	15	2		4	52	95
Inflammation	1	8	6	3				15	24
Abscess	2	32	16	12	2		4	37	71
DISEASES OF THE SKIN	9	95	51	42	1		10	239	343
Urticaria								6	6
Eczema	2	12	5	8			1	48	62
Pityriasis		1	1					1	2
Lichen								4	8
Psoriasis		1		1				3	4
Herpes	1	1	2					6	4
Zona		1	1					1	2
Pemphigus								2	2
Acne								1	1
Sycosis								2	2
Steatorrhœa								1	1
Chloasma								1	1
Frostbite		4	1	3				4	8
Ulcer	6	57	28	25	1		9	94	157
Fissures								1	1
Boil		4	3	1				36	40
Carbuncle		5	3	2				2	7
Gangrene		1	1						1
Whitlow		7	5	2				15	22
Onychia		1	1					3	4
Corn								1	1
Lupus								1	1
Wen								6	6
PARASITIC DISEASES OF THE SKIN		5	4		1			12	17
Ringworm								5	5
Favus								1	1
Tinea versicolor								2	2
Itch		3	3					3	6
Phthiriasis								1	1
Unclassified		2	1		1				2
Poisons		**2**	**1**				**1**	**4**	**6**
Metals and their salts								1	1
Vegetable poisons		2	1				1	3	5
Injuries	**31**	**330**	**212**	**109**	**3**	**5**	**32**	**466**	**827**
GENERAL INJURIES	2	21	13	3		3	4	48	71
Burns and scalds	2	12	8	1		3	2	9	23
Effects of cold		3	2	1				37	40
Multiple injury		6	3	1			2	1	7
Exhaustion								1	1
LOCAL INJURIES	29	309	199	106	3	2	28	418	756
Compression of nerves		1	1						1
Wound of nerve		1					1		1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

THE PACIFIC—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Injuries—Continued.									
LOCAL INJURIES—Continued.									
Strain of muscles	......	4	3	......	......	....	1	8	12
Rupture of tendons	......	......	......	......	......	....	......	1	1
Abrasion of skin	......	......	......	......	......	....	......	1	1
Contusion of scalp	......	3	3	......	......	....	......	8	11
Scalp wound, bone not exposed	1	17	10	5	......	1	2	15	33
Fracture of the vault of the skull	......	......	......	......	......	....	......	1	1
Contusion of face	......	2	1	1	......	....	......	8	10
Wound of face and mouth	......	10	7	3	......	....	......	18	28
Fracture of facial bones	......	5	3	2	......	....	......	2	7
Dislocation of nasal cartilages	......	1	......	1	......	....	......	......	1
Contusion of the eye	......	1	......	......	1	....	......	......	1
Foreign body in cornea or conjunctiva	......	......	......	......	......	....	......	3	3
Wound of pinna	......	1	1	......	......	....	......	1	2
Foreign body in external meatus	......	......	......	......	......	....	......	2	2
Contusion of soft parts of neck	......	......	......	......	......	....	......	1	1
Wound of neck	1	1	1	1	......	....	......	......	2
Contusion of the chest	......	7	5	2	......	....	......	16	23
Fracture of the ribs	1	16	9	6	1	....	1	18	35
Wound of parietes of chest	......	2	2	......	......	....	......	......	2
Contusion of back	1	14	7	7	......	1	......	11	26
Sprain of back	1	10	8	3	......	....	......	18	29
Wound of back	1	1	2	......	......	....	......	1	3
Fracture of spine	......	1	......	......	......	....	1	......	1
Concussion of cord	......	1	......	1	......	....	......	......	1
Wound of parietes of abdomen	......	......	......	......	......	....	......	3	3
Contusion of the pelvis	......	......	......	......	......	....	......	1	1
Contusion of the urethra, perineum, scrotum, and penis	1	2	1	2	......	....	......	2	5
Wound of the urethra, perineum, scrotum and penis	......	1	1	......	......	....	......	1	2
Rupture of urethra	1	......	1	......	......	....	......	1	2
Contusion of testicle	......	......	......	......	......	....	......	1	1
Contusion of upper extremities	2	5	3	2	......	....	2	34	41
Sprain of the shoulder	......	3	2	1	......	....	......	5	8
Sprain of the wrist	......	5	2	3	......	....	......	12	17
Sprain of the fingers	......	......	......	......	......	....	......	2	2
Wound of the upper extremities	4	40	20	20	......	....	4	118	162
Fracture of the clavicle	......	6	6	......	......	....	......	......	6
Fracture of the scapula	......	......	......	......	......	....	......	2	2
Fracture of the humerus	......	1	......	......	1	....	......	3	4
Fracture of the radius	......	2	......	1	......	....	1	1	3
Fracture of the ulna	......	2	1	1	......	....	......	1	3
Fracture of both bones of forearm	......	5	3	2	......	....	......	4	9
Fracture of carpus, metacarpus, and phalanges	......	4	4	......	......	....	......	9	13
Dislocation of the humerus	1	7	4	4	......	....	......	3	11
Dislocation of the ulna	......	1	......	1	......	....	......	......	1
Dislocation of the radius and ulna	......	1	1	......	......	....	......	......	1
Dislocation of the metacarpus	......	......	......	......	......	....	......	1	1
Dislocation of the phalanges of fingers	......	1	1	......	......	....	......	......	1
Contusion of the lower extremities	2	40	32	10	......	....	......	34	76
Sprain of the hip	......	5	1	3	......	....	1	1	6
Sprain of the knee	......	7	4	2	......	....	1	6	13
Sprain of the ankle	2	21	11	10	......	....	2	14	37
Wound of the lower extremities	1	16	12	4	......	....	1	17	34
Fracture of femur	2	6	3	......	......	....	5	2	10
Fracture of leg, both bones	5	6	5	4	......	....	2	3	14
Fracture of tibia alone	2	7	7	2	......	....	......	......	9
Fracture of fibula alone	......	9	5	2	......	....	2	4	13
Dislocation of the femur at the hip	......	1	1	......	......	....	......	......	1
Dislocation of the knee	......	1	......	......	......	....	1	......	1
AMPUTATIONS	......	5	5	......	......	....	......	......	5
Amputation of fingers	......	5	5	......	......	....	......	......	5

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

QUARANTINE.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged. Recovered.	Discharged. Improved.	Discharged. Not improved.	Died.	Remaining under treatment at the close of the year.	Number furnished office relief.	Number treated in hospital and dispensary.
TOTAL CASES	......	**113**	**51**	**58**	......	**3**	**1**	**85**	**198**
General Diseases	......	**79**	**21**	**55**	......	**3**	......	**18**	**97**
Smallpox	......	1	......	......	......	1	......	......	1
Chickenpox	......	2	......	2	......	....	......	......	2
Measles	......	49	......	49	......	....	......	......	49
Simple continued fever	......	2	2	......	......	....	......	1	3
Yellow fever	......	18	16	......	......	2	......	......	18
Dysentery	......	1	......	1	......	....	......	1	2
Malarial intermittent fever	......	2	2	......	......	....	......	3	5
Beri-beri	......	1	......	1	......	....	......	......	1
Erysipelas, simple	......	......	......	......	......	....	......	2	2
Syphilis, secondary	......	......	......	......	......	....	......	1	1
Gonorrhœa	......	......	......	......	......	....	......	4	4
Debility	......	3	1	2	......	....	......	......	3
Rheumatism	......	......	......	......	......	....	......	6	6
Local Diseases	......	**13**	**11**	**1**	......	....	**1**	**55**	**68**
DISEASES OF THE NERVOUS SYSTEM	......	......	......	......	......	....	......	6	6
Locomotor ataxy	......	......	......	......	......	....	......	1	1
Neuralgia	......	......	......	......	......	....	......	3	3
Facial	......	......	......	......	......	....	......	1	1
Chorea	......	......	......	......	......	....	......	1	1
DISEASES OF THE EAR	......	......	......	......	......	....	......	1	1
Abscess of the external meatus	......	......	......	......	......	....	......	1	1
DISEASES OF THE NOSE	......	......	......	......	......	....	......	1	1
Ozæna	......	......	......	......	......	....	......	1	1
DISEASES OF THE CIRCULATORY SYSTEM	......	1	......	1	......	....	......	1	2
Valvular disease, mitral	......	1	......	1	......	....	......	1	2
DISEASES OF THE RESPIRATORY SYSTEM	......	2	1	......	......	....	1	10	12
Laryngitis, acute	......	......	......	......	......	....	......	2	2
Bronchitis:									
Acute	......	......	......	......	......	....	......	4	4
Chronic	......	......	......	......	......	....	......	4	4
Pneumonia	......	2	1	......	......	....	1	......	2
DISEASES OF THE DIGESTIVE SYSTEM	......	10	10	......	......	....	......	23	33
Abscess of dental periosteum	......	......	......	......	......	....	......	1	1
Toothache	......	......	......	......	......	....	......	1	1
Sore throat	......	......	......	......	......	....	......	1	1
Follicular tonsilitis	......	......	......	......	......	....	......	2	2
Dyspepsia	......	......	......	......	......	....	......	3	3
Gastrodynia	......	......	......	......	......	....	......	1	1
Diarrhœa	......	10	10	......	......	....	......	5	15
Constipation	......	......	......	......	......	....	......	4	4
Colic	......	......	......	......	......	....	......	5	5
DISEASES OF THE URINARY SYSTEM	......	......	......	......	......	....	......	2	2
Inflammation of bladder, acute	......	......	......	......	......	....	......	1	1
Retention of urine	......	......	......	......	......	....	......	1	1
DISEASES OF THE GENERATIVE SYSTEM	......	......	......	......	......	....	......	2	2
Ulcer of penis	......	......	......	......	......	....	......	2	2
DISEASES OF THE ORGANS OF LOCOMOTION	......	......	......	......	......	....	......	1	1
Caries	......	......	......	......	......	....	......	1	1
DISEASES OF THE SKIN	......	......	......	......	......	....	......	7	7
Urticaria	......	......	......	......	......	....	......	1	1
Eczema	......	......	......	......	......	....	......	2	2
Ulcer	......	......	......	......	......	....	......	1	1
Boil	......	......	......	......	......	....	......	3	3

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE YEAR ENDED JUNE 30, 1893—Continued.

QUARANTINE—Continued.

DISEASES.	NUMBER OF CASES.								
	Remaining under treatment from previous year.	Admitted during the year.	Discharged.			Died.	Remaining under treatment at the close of the year	Number furnished office relief.	Number treated in hospital and dispensary.
			Recovered.	Improved.	Not improved.				
Local Diseases—Continued.									
PARASITIC DISEASES OF THE SKIN								1	1
Tinea versicolor								1	1
Injuries		**21**	**19**	**2**				**12**	**33**
GENERAL INJURIES		18	18						18
Heat stroke		1	1						1
Exhaustion		17	17						17
LOCAL INJURIES		3	1	2				12	15
Contusion of back								1	1
Sprain of back								2	2
Contusion of upper extremities								3	3
Dislocation of the humerus		1		1					1
Dislocation of the metacarpus								1	1
Sprain of the ankle								1	1
Wound of the lower extremities		1	1					4	5
Fracture of leg, both bones		1		1					1

TABLE VIII.—TABULAR STATEMENT, BY DISTRICTS, OF CAUSES OF MORTALITY AMONG PATIENTS OF THE SERVICE DURING THE YEAR ENDED JUNE 30, 1893.

Causes of death.	Total.	Districts.								
		North Atlantic.	Middle Atlantic.	South Atlantic.	The Gulf.	The Ohio.	The Mississippi.	The Great Lakes.	The Pacific.	Quarantine stations.
Total Deaths from all Causes	**478**	**45**	**78**	**72**	**44**	**42**	**53**	**75**	**66**	**3**
FROM DISEASES	435	44	75	68	41	40	35	68	61	
FROM INJURY	43	1	3	4	3	2	18	7	5	
General Diseases	**228**	**25**	**31**	**33**	**18**	**27**	**20**	**40**	**31**	**3**
Smallpox										1
Influenza					1	1	3	3		
Diphtheria					1					
Cerebro-spinal fever						1				
Enteric fever		8	2	7	1	3	2	6	1	
Typho-malarial fever				1						
Yellow fever										2
Dysentery			1	3	3				1	
Malarial intermittent fever		1	2	2	1		1			
Malarial remittent fever			2	4	1		4	1		
Beri-beri		1								
Phagedæna					1		1			
Syphilis, secondary		1			1	2		3	1	
Gonorrhœa						1			1	
Scurvy									1	
Alcoholism				1				3		
Rheumatic fever								1		
Rheumatism			1	1	1			1	2	
Osteoarthritis									1	
Malignant new growth		1	1			1	1	1		
Tubercle		12	21	14	7	17	8	20	22	

TABLE VIII.—TABULAR STATEMENT, BY DISTRICTS, OF CAUSES OF MORTALITY AMONG PATIENTS OF THE SERVICE DURING THE YEAR ENDED JUNE 30, 1893—Continued.

Causes of death.	Total.	Districts.								
		North Atlantic.	Middle Atlantic.	South Atlantic.	The Gulf.	The Ohio.	The Mississippi.	The Great Lakes.	The Pacific.	Quarantine stations.
General Diseases—Continued.										
Scrofula						1				
Leprosy		1								
Purpura			1							
Leucocythæmia								1		
Diabetes mellitus									1	
Local Diseases	**207**	**19**	**44**	**35**	**23**	**13**	**15**	**28**	**30**	
DISEASES OF THE NERVOUS SYSTEM	21	2	3	6	3		1	1	5	
Hemorrhage, cerebral								1		
Inflammation:										
Of brain and its membranes			2							
Of cerebral membranes		1		2						
Spinal meningitis				1						
Myelitis				1			1			
Locomotor ataxy			1		1				1	
Apoplexy				1						
Hemiplegia		1		1	2				3	
Local paralysis									1	
MENTAL DISEASES	2			1	1					
Mania				1						
Dementia					1					
DISEASES OF THE NOSE	1			1						
Caries				1						
DISEASES OF THE CIRCULATORY SYSTEM	43	4	3	9	5	4	4	9	5	
Pericarditis						1	1			
Valvular diseases:										
Aortic		3	1	3	1	1	2	3	1	
Mitral			2	5	3	2		5		
Degeneration of heart, fatty									1	
Dilatation of heart								1		
Aneurism of arteries		1		1	1		1		3	
DISEASES OF THE RESPIRATORY SYSTEM	64	4	23	9	8	2	3	8	7	
Bronchitis:										
Acute				1	2			2		
Chronic		1			2					
Spasmodic asthma			1	1						
Pneumonia		3	15	5	3	2	3	4	3	
Pneumonic phthisis:										
Acute				1					2	
Chronic			7	1	1					
Pleurisy, acute								1		
Empyema								1	2	
DISEASES OF THE DIGESTIVE SYSTEM	34	3	6	5		4	5	7	4	
Sore throat						1				
Follicular tonsilitis						1				
Inflammation of the stomach			3			1	1	1	1	
Ulceration of the stomach		1								
Inflammation of the intestines							2	2	1	
Abscess in the subperitoneal tissue								1		
Obstruction of the intestines		1								
Hernia				1			1		1	
Diarrhœa			1	1				1		
Colic		1								
Abscess of the rectum						1				
Atrophy of the liver				1						
Cirrhosis of the liver			1					1		
Lardaceous liver							1			
Peritonitis			1	2				1	1	

TABLE VIII.—TABULAR STATEMENT, BY DISTRICTS, OF CAUSES OF MORTALITY AMONG PATIENTS OF THE SERVICE DURING THE YEAR ENDED JUNE 30, 1893—Continued.

Causes of death.	Total.	Districts.								
		North Atlantic.	Middle Atlantic.	South Atlantic.	The Gulf.	The Ohio.	The Mississippi.	The Great Lakes.	The Pacific.	Quarantine stations.
Local Diseases—Continued.										
DISEASES OF THE URINARY SYSTEM	31	5	5	3	4	2	......	3	9	......
Acute nephritis	......	1	......	......	1	1	......	......	2	......
Bright's disease	......	4	4	1	3	1	......	2	6	......
Inflammation of bladder:										
Acute	......	......	......	......	......	......	......	1	......	......
Chronic	......	......	......	2	......	......	......	......	......	......
Retention of urine	......	......	1	......	......	......	......	......	1	......
DISEASES OF THE GENERATIVE SYSTEM	7	......	3	1	2	......	1	......	......	......
Stricture of urethra, organic	......	......	2	1	1	......	1	......	......	......
Ulcer of penis	......	......	1	......	......	......	......	......	......	......
Orchitis, acute	......	......	......	......	1	......	......	......	......	......
DISEASES OF THE ORGANS OF LOCOMOTION	3	1	......	......	......	1	1	......	......	......
Caries	......	......	......	......	......	1	......	......	......	......
Necrosis	......	......	......	......	......	......	1	......	......	......
Caries and necrosis of spine	......	1	......	......	......	......	......	......	......	......
DISEASES OF THE CONNECTIVE TISSUE	1	......	1	......	......	......	......	......	......	......
Inflammation	......	......	1	......	......	......	......	......	......	......
Injuries	**43**	**1**	**3**	**4**	**3**	**2**	**18**	**7**	**5**	......
GENERAL INJURIES	22	......	......	......	1	......	14	4	3	......
Burns and scalds	......	......	......	......	1	......	14	3	3	......
Multiple injury	......	......	......	......	......	......	......	1	......	......
LOCAL INJURIES	21	1	3	4	2	2	4	3	2	......
Scalp wound:										
Bone not exposed	......	......	......	......	......	......	1	......	1	......
Bone exposed	......	......	......	1	......	......	......	......	......	......
Fracture of the vault of the skull	......	......	1	1	1	1	......	......	......	......
Compression of brain	......	......	1	......	......	......	......	......	......	......
Contusion of face	......	......	......	1	......	......	......	......	......	......
Fracture of facial bones	......	1	......	......	......	......	......	......	......	......
Wound of the parietes of the chest	......	......	......	......	......	1	......	......	......	......
Contusion of back	......	......	......	......	......	......	......	......	1	......
Fracture of the spine	......	......	......	......	......	......	......	1	......	......
Dislocation of spine	......	......	......	......	......	......	......	1	......	......
Wound of the parietes of abdomen	......	......	......	......	......	......	1	......	......	......
Fracture and dislocation of the pelvis	......	......	......	......	......	......	......	1	......	......
Wound of the upper extremities	......	......	1	......	......	......	......	......	......	......
Fracture both bones of forearm	......	......	......	......	1	......	......	......	......	......
Contusion of the lower extremities	......	......	......	1	......	......	......	......	......	......
Fracture of femur	......	......	......	......	......	......	2	......	......	......

Table IX.—Surgical Operations, Fiscal Year 1893.

Operations.	Number of cases.	Remarks.
Total Number of Operations	**627**	
Removal of Tumors	24	
For fatty tumor of forehead	1	Enucleation; successful.
For lipoma of forehead	2	Extirpation; successful.
For fibroma of forehead	3	Enucleation; successful.
For fibroma of lip	2	Excision; successful.
For fatty tumor of neck	1	Incision and enucleation; successsful.
For sebaceous tumor of neck	3	Removal 2, excision 1; improved.
For lipoma of back	1	Extirpation.
For fibroma of penis	3	Removal.
For sarcoma of penis	1	Excision.
For cystic tumor of testicles	3	Testicles removed; under treatment.
For sebaceus cyst of hip	3	Sac dissected out.
For cystic tumor of leg	1	Excision; under treatment.
Removal of Foreign Bodies	9	
For foreign body in pharynx	2	Removal; successful.
For gunshot wound, abdomen	1	Ball extracted; successful.
For foreign body in rectum	1	Removal; successful.
For gunshot wound, face	1	Ball extracted; successful.
For foreign body in hand	3	Removal; successful.
For foreign body in foot	1	Do.
Opening of Abscesses	32	
For abscess nasal duct	1	Canalicular slit, probe passed.
For abscess jaw	2	Incision and scraping.
For abscess connective tissue, neck	5	Do.
For abscess of axilla	3	Incision and counter opening, 2; cavity drained, 1.
For abscess perineum	2	Incision and drainage.
For tubercular abscess testicles	4	Castration 2; testicles enucleated, 2.
For abscess connective tissue finger	2	Incision.
For thecal abscess	1	Do.
For abscess of hip	2	Opened and cavity drained.
For abscess muscles, buttock	7	Aspiration, 1; exploration and evacuation, 6.
For abscess muscles of thigh	3	Incision and drainage.
Operations on the Nerves	8	
For sciatica	7	Forced flexion, 3; exposing and stretching nerve, 4.
For division of ulnar nerve	1	Nerve grafting.
Operations on the Eye	11	
For pterygium	3	Excision.
For opacity of cornea	4	Iridectomy.
For cataract	2	Extraction of lens; unsuccessful.
For suppuration keratitis	1	Iridectomy.
For panophthalmitis	1	Enucleation of eyeball; successful.
Operations on the Nose	7	
For nasal polypus	1	Removal and cauterization; successful.
For catarrh of nose	3	Polypoid tissue snared from turbinate bone; successful.
For catarrh of pharynx	3	Polypoid tissue snared, 2; sawing off spur from septum, 1.
Operations on the Head and Mouth	12	
For inflammation cerebral membrane	1	Trephined.
For fracture of skull	1	Removal of diseased bone.
For epilepsy	2	Trephining of skull.
For scalp wound, bone exposed	2	Bone scraped.
For scalp wound, bone not exposed	1	Sutured.
For suppuration dental periosteum	1	Tooth extracted and abscess of neck drained.
For epithelioma of lip	4	V-shaped piece removed, 3; incision, 1; recovered.
Operations on the Arteries	5	
For aneurism facial artery	2	Ligation.
For aneurism of thigh	3	Ligated external iliac; recovered.
Operations on Veins	27	
For varicocele	15	Veins ligated, 5; obliteration of varices, 10.
For varicose veins of rectum	4	Cauterization.
For varicose veins of leg	6	Obliteration of varices.
For varicose veins of both legs	2	Excision.

TABLE IX.—SURGICAL OPERATIONS, FISCAL YEAR 1893—Continued.

Operations.	Number of cases.	Remarks.
OPERATIONS ON THE RESPIRATORY ORGANS	18	
For hydrothorax	3	Paracentesis of plural cavity, improved.
For pleurisy with effusion	7	Paracentesis (aspirated), 3; improved; unsuccessful, 4.
For empyema	7	Incisive and drainage, 4; resection of rib, 3.
For œdema of glottis	1	Tracheotomy, died.
OPERATIONS ON THE ORGANS OF DIGESTION	66	
For hernia, inguinal	8	Cutting sac.
For hernia, oblique	6	Radical cure, 4; McBirney's operation, 2.
For hernia, irreducible	5	Sac opened and ligated.
For hernia, strangulated	4	Herniotomy, McBirney's operation.
For appendicitis	1	Appendix ligated and removed, died.
For ascites	1	Paracentesis of abdomen.
For intestinal anastomosis	1	Laparotomy.
For strangulated acclusion of bowel	1	Do.
For suppuration, perityphlitic	1	Do.
For stricture of rectum	4	Posterior linear rectotomy.
For fistula in ano	15	Incision, 7; incision and curetting, 8.
For hæmorrhoids	19	Ligated, 12; sphincter ani dilated, 7.
OPERATIONS ON THE LYMPHATIC ORGANS	53	
For inflammation of lymph. glands, groin	36	Excision, 16; enucleation, 20.
For suppuration of lymph. glands, neck	7	Excised and packed.
For suppuration of inguinal glands	10	Excision.
OPERATIONS ON THE URINARY ORGANS	123	
For traumatic perineal fistula	4	Supra pubic cystotomy.
For rupture of urethra	3	Median lithotomy.
For fistula in urethra	7	Cystotomy.
For stricture of urethra		Recovered.
Gradual dilatation	35	
Forcible dilatation	24	
Internal urethrotomy	29	
External urethrotomy	10	
For urinary fistula	7	Operation for urinary fistula.
For rupture of the perineum	3	Renewal and suturing.
For vesical calculus	1	Lithotomy and evacuation.
OPERATIONS ON THE ORGANS OF GENERATION	148	
For phimosis	35	Circumcision, 15; pepuce slit and ligated, 20.
For phimosis and bubo	19	Circumcision, 9; operation for phimosis, 10.
For ulcer of penis	13	Circumcision, 8; foreskin slit, 5.
For ulcer of penis and venereal warts	11	Circumcision, 4, warts cut off, 7.
For œdema of penis	1	External urethrotomy.
For paraphimosis	14	Reduced, 4; circumcision, 10.
For hypospadias	3	Constriction, edges freshened and sutured.
For hydrocele	9	Incision of sac.
For hydrocele tunica vaginalis	24	Aspirated, 9; radical cure, 15.
For hydrocele testis	2	Tapping and injected acid carbol
For hypertrophy of testicles	3	Castration.
For gumma of testicles	1	Do.
For tubercle of testicles	8	Castration, 3; enucleation, 5.
For syphilis	5	Indurated glands removed.
OPERATIONS ON BONES	28	
For fracture of femur	1	Plaster cast, and traction.
For fracture of spine	2	Pieces of bone removed, and vertebræ wired.
For fracture of clavicle	2	Removal of bone.
For necrosis of frontal bone	1	Bone removed.
For necrosis of nasal bone	1	Removed with gouge.
For fracture of radius	3	Reduction and splint.
For fracture of ulna	2	Partial excision.
For necrosis of hand	3	Bone scraped.
For necrosis of finger	4	Extraction of bone.
For fracture of patella	3	Direct fixation of fragments by wiring.
For fracture of tibia	2	Freshened and wired.
For caries of tibia	4	Bone scraped and chiseled.
OPERATIONS ON THE ORGANS OF LOCOMOTION	13	
For fracture of knee joint	3	Fixation of fragments by wiring.
For dropsy of knee joint	2	Aspiration.
For morbus coxæ	1	Aspiration of hip joint; unsuccessful.
For synovitis of knee	4	Aspirated.

TABLE IX.—SURGICAL OPERATIONS, FISCAL YEAR 1893—Continued.

Operations.	Number of cases.	Remarks.
OPERATIONS ON THE ORGANS OF LOCOMOTION—Cont'd.		
For ankylosis of knee	1	Forcible flexion.
For lacerated wound, lower extremity	1	Nail removed.
For tuberculosis of ankle	1	Partial excision.
OPERATIONS ON THE TENDONS	11	
For contraction hamstring tendon	1	Subcutaneous tenotomy; under treatment.
For inflammation bursa patella	9	Aspirated, 4; incision, 5.
For talipes equino-varus, feet	1	Tenotomy.
AMPUTATIONS	27	
Hand for frostbite	1	
Hand for gangrene	2	
Hand for contused wound	1	
Hand for cicatrix	1	
Fingers for frostbite	3	
Fingers for caries	4	
Fingers for necrosis	2	
Fingers for contused wound	3	
Fingers for poisoned wound	2	
Fingers for ankylosis	1	
Fingers for unhealed stump	1	
Leg for fracture	2	
Leg for lacerated wound	1	
Feet for frostbite	2	
Toe for neuralgia	1	
OPERATIONS ON THE SKIN	5	
For ulcer, skin of arm	1	Curetted; under treatment.
For ulcer, skin of perineum	1	Do.
For ulcer, skin of leg	2	Skin grafting.
For ulcer, skin of foot	1	Do.

TABLE X.—RATIO OF DEATHS FROM SPECIFIC CAUSES.

Deaths from—	Per 100 from all causes.	Deaths from—	Per 100 from all causes.
General diseases	47.70	Diseases of the digestive system	7.11
Diseases of the nervous system	4.81	Diseases of the urinary system	6.48
Diseases of the circulatory system	8.99	Injuries	8.99
Diseases of the respiratory system	13.38	From all other causes	2.54

TABLE XI.—RATIO OF DEATHS IN EACH DISTRICT.

Districts.	Per 100 patients treated in hospital.	Districts.	Per 100 patients treated in hospital.
North Atlantic	2.46	The Mississippi	3.64
Middle Atlantic	3.69	The Great Lakes	2.76
South Atlantic	3.37	The Pacific	3.73
The Gulf	3.29	The quarantine stations	2.65
The Ohio	3.01		

TABLE XII.—COMPARATIVE EXHIBIT.—MORTALITY PER 100 PATIENTS TREATED IN HOSPITAL, BY DISTRICTS, 1884–1893.

Districts.	General average.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.
North Atlantic	3.06	3.59	3.95	3.09	3.04	3.53	3.25	2.65	2.50	2.62	2.46
Middle Atlantic	3.96	3.87	3.34	3.27	4.85	4.80	3.92	4.66	3.77	3.44	3.69
South Atlantic	3.13	2.86	3.05	3.54	3.53	2.54	3.55	3.64	2.56	2.71	3.37
The Gulf	3.34	4.10	2.49	2.96	3.82	2.78	3.08	3.40	3.88	3.63	3.29
The Ohio	2.77	4.33	2.43	3.05	3.06	2.01	3.52	2.26	2.54	1.53	3.01
The Mississippi	3.60	4.08	2.93	2.79	4.19	4.78	3.52	3.04	3.67	3.37	3.64
The Great Lakes	2.86	3.07	2.79	2.37	2.72	2.83	2.93	2.63	2.44	4.11	2.76
The Pacific	4.35	4.88	3.30	5.72	4.59	4.45	4.22	4.42	4.43	3.83	3.73

TABLE XIII.—COMPARATIVE EXHIBIT.—RATIO OF DEATHS FROM SPECIFIC CAUSES, 1884–1893.

Deaths from—	General average.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.
General diseases	47.54	48.67	46.61	48.40	45.63	46.58	45.47	50.20	52.66	43.42	47.70
Diseases of the—											
Nervous system	5.34	4.40	8.07	4.91	4.79	6.84	5.69	4.06	3.69	6.05	4.81
Circulatory system	8.49	6.14	10.42	9.09	7.29	10.04	7.58	5.81	9.84	9.60	8.99
Respiratory system	15.74	13.90	14.06	16.22	17.50	14.96	17.26	19.10	15.16	15.85	13.38
Digestive system	7.59	9.20	9.90	7.37	7.08	8.97	7.37	6.30	5.33	7.30	7.11
Urinary system	5.37	7.36	5.21	4.18	6.25	5.34	4.63	4.67	4.71	4.80	6.48
Injuries	6.31	5.94	3.39	5.41	7.92	4.50	8.00	5.81	5.33	7.72	8.99
From all other causes	3.62	4.30	2.34	4.42	3.54	2.77	4.00	3.65	3.28	5.26	2.54

TABLE XIV.—COMPARATIVE EXHIBIT.—AVERAGE DURATION OF TREATMENT IN HOSPITAL IN EACH DISTRICT, 1884–1893.

Districts.	General average.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.
North Atlantic	27.50	30.13	30.22	26.56	23.89	26.76	30.05	29.21	29.68	24.37	24.12
Middle Atlantic	26.74	26.84	25.32	25.84	29.21	26.99	26.92	26.32	26.81	26.87	26.29
South Atlantic	26.86	23.46	26.06	26.72	27.99	26.53	27.91	28.27	26.19	26.26	29.23
The Gulf	21.52	19.97	18.63	19.43	20.82	23.24	24.55	28.21	21.07	21.97	22.33
The Ohio	23.19	22.56	23.18	23.61	21.87	21.62	22.52	24.52	24.92	23.81	23.37
The Mississippi	20.87	18.16	20.28	20.79	21.72	21.23	22.60	20.88	22.61	20.59	19.84
The Great Lakes	27.79	29.75	28.10	28.61	26.31	26.72	29.69	30.82	27.09	27.82	27.07
The Pacific	32.92	31.04	31.09	29.74	29.72	29.96	31.12	33.68	32.68	36.92	40.27

TABLE XV.—STATEMENT OF MORTALITY OF PASSENGERS ON VOYAGES FROM FOREIGN PORTS TO THE UNITED STATES, JULY 1, 1892, TO JUNE 30, 1893.

Date.	Name of vessel.	Where from.	Sex.	Age.	Cause of death as reported to customs officer.
Mar. 16	Alameda	Sydney	Male	60	
Mar. 22	Alesia	Mediterranean ports	do	30	Pneumonia.
May 19	do	do	do	55	Heart disease.
Mar. 8	Alsatia	do	do	34	Do.
June 15	do	do	do	32	Inflammation of bowels.
July 2	Anchonia	Glasgow	Female	25	Conjestion of lungs.
Apr. 1	Assyria	Mediterranean ports	Male	23	Heart disease.
May 9	Belgravia	Aconna, etc	do	42	Syncope.
May 9	do	do	do	32	Pneumonia.
May 9	do	do	do	57	Syncope.
May 9	do	do	Female	8	Convulsions.
Nov. 18	Belgenland	Antwerp	do	27	Pneumonia.
Oct. 8	Bohemia	Hamburg	Male	8	Diarrhœa.
Oct. 8	do	do	do	23	Enteritis.
Oct. 8	do	do	do	25	Do.
Nov. 30	Braunschweig	Bremen	Female	18	Puerperal fever,
July 2	Britannia	Marseilles	Male	23	Consumption.
Mar. 30	British Princess	Liverpool	Female	11	Pneumonia.
Jan. 19	Burgundia	Mediterranean ports	do	10	Diphtheria.
Apr. 27	California	Hamburg	do	30	Enteritis,

TABLE XV.—STATEMENT OF MORTALITY OF PASSENGERS ON VOYAGES FROM FOREIGN PORTS TO THE UNITED STATES, JULY 1, 1892, TO JUNE 30, 1893—Continued.

Date.	Name of vessel.	Where from.	Sex.	Age.	Cause of death as reported to customs officer.
June 5	California	Mediterranean ports	Female	10	Diphtheria.
July 16	Cephalonia	Liverpool	Male	58	Pneumonia.
May 12	Cheribon	Marseilles	do	45	Cerebral congestion.
Feb. 1	China	Hongkong	do	30	
Apr. 17	do	Yokohama	do	22	
Apr. 17	do	do	do	38	
Apr. 1	Colombo	Mediterranean ports	do	23	Meningitis.
Apr. 1	do	do	do	32	Pleurisy.
July 16	Columbia	Hamburg	do	41	Paralysis.
July 16	do	do	do	25	Pneumonia.
Apr. 17	Devonia	Glasgow	Female	25	Do.
Mar. 25	Dona Maria	Fayal	Male	9	Heart disease.
Apr. 25	Dresden	Bremen	do	24	Weakness.
Nov. 29	do	do	Female	68	Do.
May 20	Dubbledam	Amsterdam	do	34	Heart disease.
May 2	Edam	Bremen	do	16	Pneumonia.
Sept. 1	Elba	do	Male	60	Aneurism.
Dec. 19	Elysia	Mediterranean ports	do	26	Pneumonia.
Apr. 30	Furnessia	Glasgow	Female	17	Meningitis.
Sept. 1	Gallia	Liverpool	Male	24	Coma.
Aug. 12	Gera	Bremen	Female	9	Apoplexy of heart.
Feb. 25	Harlan	Bluefields, Nicaragua.	Male	31	Consumption.
Aug. 18	Hekla	Copenhagen	Female	63	Paralysis.
Apr. 9	do	do	do	4	Enteritis.
Apr. 9	do	do	do	18	Pneumonia.
Apr. 9	do	do	Male	50	Febris typhoid.
May 11	H. H. Meier	Bremen	do	21	Consumption.
Feb. 3	Hindoustan	Mediterranean ports	do	53	Heart disease.
May 7	do	Marsielles	do	30	Cancer of stomach.
Feb. 3	Indiana	Mediterranean ports	do	41	Pneumonia.
Feb. 3	do	do	do	66	Exhaustion.
Feb. 14	do	Liverpool	do	50	Phthisis pulmonalis.
Mar. 22	do	do	do	36	Heart failure.
Aug. 19	do	do	Female	10	Heart disease.
Apr. 23	Iniziativa	Mediterranean ports	Male	28	Pneumonia.
Oct. 31	Island	Copenhagen	Female	24	Consumption.
Apr. 23	Italia	Stettin	Male	8	Peritonitis
Aug. 14	Karamania	Mediterranean ports	do	40	Choleraic diarrhea.
Aug. 14	do	do	Female	47	Congestion of lungs.
July 21	Karlsruhe	Bremen	do	62	Heart disease.
Mar. 16	Lahn	do	Male	21	Pneumonia.
Sept. 21	Lord Cline	Liverpool	do	38	Delirium tremens.
Sept. 23	Moravia	Hamburg	do	8	Cholerine.
Sept. 23	do	do	Female	29	Do.
Sept. 23	do	do	do	30	Do.
Mar. 30	München	Bremen	Male	54	Apoplexy.
Apr. 7	Neustria	Mediterranean ports	do	24	Gastritis.
May 25	Obdam	Rotterdam	do	44	Heart failure.
July 21	Olympia	Mediterranean ports	Female	35	Premature labor.
May 20	Peruvian	Glasgow	do	11	Meningitis.
Mar. 25	Povonia	Liverpool	Male	24	Suicide.
Sept. 23	Rugia	Hamburg	Female	39	Tubercle of lungs.
Sept. 23	do	do	Male	11	Tuberculosis
Sept. 23	do	do	do	30	Cholera.
Apr. 25	do	do	do	42	Lung disease.
Sept. 29	Scandia	do	do	39	Tuberculosis.
Sept. 29	do	do	Female	25	Cholera.
Sept. 29	do	do	do	10	Do.
Sept. 29	do	do	do	36	Do.
Sept. 29	do	do	do	28	Do.
Sept. 29	do	do	do	10	Do.
Sept. 29	do	do	Male	60	Cachexia.
Sept. 29	do	do	Female	15	Cholera.
Sept. 29	do	do	Male	35	Heart disease.
Sept. 29	do	do	Female	78	Weakness.
Sept. 28	Schridam	Amsterdam	Male	14	Bronchitis.
June 15	Scythia	Liverpool	do	48	Delirium tremens.
July 19	do	do	do	11	Meningitis.
Apr. 3	Servia	do	Female	71	Pneumonia.
Nov. 30	Sorrento	Hamburg	do	54	Consumption.
Nov. 25	Veendam	Rotterdam	Male	35	Delirium tremens.
Nov. 29	Waesland	Antwerp	do	59	Pneumonia.
Nov. 29	Weimar	Bremen	Female	68	Weakness.
Nov. 29	do	do	Male	68	Brain fever.
May 30	do	do	do	29	Heart disease.
May 30	do	do	do	18	Pleurisy.
June 4	Weiland	Hamburg	do	9	Inflammation of bowels.
June 23	Werkendam	Rotterdam	do	68	Bronchitis.
Aug. 18	Weser	Mediterranean ports	do	23	Tuberculosis.
May 26	Zaandam	Rotterdam	do	15	Cerebral hemorrhage.

TABLE XVI.—NATIVITY OF PATIENTS TREATED IN U. S. MARINE HOSPITALS DURING THE FISCAL YEAR.

Countries.	Number.	Countries.	Number.
Total	13,950	Italy	193
		Japan	29
Africa	100	Mexico	25
Australia	12	New Zealand	5
Austria	103	Norway	718
Azore Islands	23	Philippine Islands	15
Canada	316	Poland	93
China	75	Portugal	15
Denmark	300	Prince Edward Islands	45
England	206	Russia	111
Fayal	36	Scotland	109
Finland	205	Spain	65
France	100	Sweden	690
Germany	603	Switzerland	100
Greece	16	United States of America	8,614
Holland	27	Wales	22
India	6	West Indies	100
Inland	798	Unknown	75

FINANCIAL STATEMENT.

FINANCIAL STATEMENT.

RECEIPTS AND EXPENDITURES, U. S. MARINE-HOSPITAL SERVICE, FOR THE FISCAL YEAR ENDED JUNE 30, 1893.

The balance available at the commencement of the fiscal year was $139,199.34, and the receipts from all sources were $554,200.86.

The expenditures were $586,238.02, leaving on hand at the close of the fiscal year a balance of $107,162.18.

SUMMARY.

Balance July 1, 1892	$139,199.34
Receipts:	
Tonnage tax collected	539,233.14
Repayments for care and treatment of foreign seamen, etc	14,967.72
Total available during fiscal year	693,400.20
Expenditures	586,238.02
Balance June 30, 1893	107,162.18

Summary of expenditures on account of the quarantine service, fiscal year ended June 30, 1893.

Stations.	Payments from the appropriation "quarantine service, 1893."	Payments from the appropriation "preventing the spread of epidemic diseases."	Total.
Cape Charles	$21,197.64	$2,541.23	$23,738.87
Delaware Breakwater	23,292.98	2,360.50	25,653.48
Gulf	14,421.80	1,225.96	15,647.76
Key West	10,874.37	538.79	11,413.16
Port Townsend	2,441.79	369.55	2,811.34
San Diego	3,461.65	335.00	3,796.65
San Francisco	14,403.29	1,536.76	15,940.05
South Atlantic	10,203.73	945.76	11,149.49
Miscellaneous	74.25	93.41	167.66
Total	100,371.50	9,946.96	110,318.46

Preventing the spread of epidemic diseases.

Balance, July 1, 1892		$110,261.20
Amount appropriated:		
Act of August 5, 1892		100,000.00
Act of March 3, 1893		900,000.00
Repayments, care foreign seamen, etc		38.41
Total available during fiscal year		1,110,299.61
Expenditures:		
Camp Low, N. J	$54,775.73	
Cape Charles, Va	10,881.74	
Delaware Breakwater, Del	7,181.15	
Fort Pulaski, Ga	1,765.20	
Foreign medical service	14,798.05	

Preventing the spread of epidemic diseases—Continued.

Expenditures—Continued.		
Medical service in United States, sanitary inspectors, etc	$41,215.13	
Repairs to steamers	4,434.27	
Expended at quarantine stations under allotment by the President	9,946.96	
Quarantine stations, 1892	804.32	
Bath house, disinfecting machinery, etc., Camp Low	16,000.00	
Wharf, disinfecting house, etc., Reedy Island	12,000.00	
Bath house, boiler house, etc., Delaware Breakwater	5,000.00	
Laundry appliances, kitchen, etc., Cape Charles	3,750.00	
Stationery and transportation charges	103.18	
Traveling expenditures	1,678.43	
		$184,334.16
Balance, June 30, 1893		925,965.45

STATEMENT BY APPROPRIATIONS.

Quarantine service, 1893.

Amount appropriated:	
Act of August 5, 1892	$50,000.00
Act of March 3, 1893	50,000.00
Repayments, care foreign seamen, etc	372.75
Total available during fiscal year	100,372.75
Expenditures	100,371.50
Unexpended balance	1.25

In addition to the above, $9,946.96 has been expended at the several quarantine stations from the appropriation for preventing the spread of epidemic diseases, out of an allotment of $10,000 by the President for this purpose.

Appropriation for quarantine stations, act August 1, 1888.

Stations.	Balance July 1, 1892.	Expenditures during fiscal year.	Balance June 30, 1893.
Cape Charles	$66,834.40	$31,158.19	$35,676.21
Delaware Breakwater	24,652.16	21,663.62	2,988.54
Key West	45,861.44	25,552.33	20,309.11
Port Townsend	55,417.69	4,271.97	51,145.72
San Diego	26,089.98	26,089.98	
San Francisco	83.94	118.44	
Repayment	34.50		

Appropriation for quarantine stations, act March 3, 1891.

South Atlantic, balance of appropriation July 1, 1892	$18,991.33
Appropriation, act of August 5, 1892	6,000.00
Total available	24,991.33
Expenditures to June 30, 1893	17,949.44
Balance June 30, 1893	7,041.89

Gulf Quarantine Station, buildings, etc., act March 3, 1891.

Balance, June 30, 1892	12,612.01
Appropriation, act of August 5, 1892	7,500.00
Total available	20,112.01
Expenditures to June 30, 1893	11,593.74
Balance June 30, 1893	8,518.27

San Francisco Quarantine, completing station, etc., act August 5, 1892.

Appropriation, act of August 5, 1892	$18,500.00
Expenditures to June 30, 1893	2,410.70
Balance June 30, 1893	16,089.30

Chesapeake Bay Quarantine Station, act March 3, 1893.

Appropriation, act of March 3, 1893	7,000.00
Balance June 30, 1893	7,000.00

San Francisco Quarantine, fumigating steamer.

Balance June 30, 1892	$5,996.75
Expenditures to June 30, 1893	4,980.43
Balance June 30, 1893	1,016.32

Key West Quarantine, disinfecting machinery.

Balance June 30, 1892	$7,160.74
Expenditures to June 30, 1893	6,260.34
Balance June 30, 1893	900.40

SANITARY REPORTS AND STATISTICS.

During the year the Abstract of Sanitary Reports, issued weekly, have conveyed to health officers, both at home and abroad, as well as to the general public, accurate information of the existence of cholera, yellow fever, and other contagious diseases, and giving in a condensed form a narrative of the progress of the yellow fever epidemic at Brunswick, Ga. In addition to the usual statistical matter it contained the reports of the medical officers in foreign countries upon all matters affecting the public health of the United States, and in particular those relating to immigration. A special officer has been detailed to edit and supervise the mailing of these abstracts, which are greatly appreciated, not only by quarantine officers, but steamship companies, merchants, and the press. The volume for the present year will number about 1,300 pages.

NATIONAL QUARANTINE STATIONS.

NATIONAL QUARANTINE STATIONS.

CAMP LOW, SANDY HOOK, N. J.

This station was established in September, 1892, for the purpose of relieving and assisting the New York Quarantine in the care of the large number of immigrants arriving on infected vessels, and was placed in complete readiness for service in the spring and summer of 1893. Its sanitary provisions were perfected by the addition of two steam chambers for the disinfection of baggage, a bath house, containing twenty-three apartments, for the bathing of immigrants, and a pump and tanks for perfected water supply. Arrangements were made with the Revenue-Cutter Service for immediately furnishing officers and enlisted men for guard duty, and during the epidemic of cholera in Naples everything was in readiness for the utilization of the camp, the necessity for which seemed to be threatening. The perfecting of the arrangements at this camp was earnestly urged upon the Bureau by the advisory committee of the Chamber of Commerce of New York.

DELAWARE BREAKWATER QUARANTINE.—NOVEMBER 30, 1892, TO NOVEMBER 30, 1893.

Vessels disinfected	20
Vessels inspected and passed	573
Vessels passed to the Lazaretto at Philadelphia	3
Vessels sent to Reedy Island quarantine station	4
Vessels spoken and passed	8

One case smallpox on British steamer *Elton* June 7, 1893. One case varioloid and three measles on American schooner *Ohio*, arrived May 21.

American schooner *Hannah McLoon* arrived July 25, 1893, from Havana, with body of captain on board; died from yellow fever; five other cases on voyage; all recovered.

During the year an artesian well has been sunk at this station and the water supply distributed to the barracks and other buildings. Steward's quarters have been erected; also a bath house containing 21 bath rooms with shower baths, provided with hot and cold water; a laundry building; steam-disinfecting chamber, and additional water tanks. The whole reservation with the exception of the surgeon's residence, has been inclosed by a strong picket fence 10 feet high, and permanent board walks have been laid.

REEDY ISLAND QUARANTINE.—JULY 16 TO NOVEMBER 30, 1893.

Vessels disinfected	17
Vessels detained for observation	7
Vessels inspected and passed	317
Vessels inspected and passed to Philadelphia Lazaretto	12
Vessels pumped out	1
Vessels spoken and passed	5

A full description of the Reedy Island quarantine station and the reason for its establishment are set forth in the following article prepared for the information of those interested by the Maritime Exchange of Philadelphia, the data being furnished by this Bureau.

UNITED STATES QUARANTINE SYSTEM ON THE DELAWARE BAY AND RIVER.

A.—DELAWARE BREAKWATER QUARANTINE STATION.

The Delaware Breakwater quarantine station, at the mouth of the Delaware Bay, was established by the National Government in 1884, and was opened on the 1st of August of that year. It was established upon the recommendation of the senior Senator of Delaware at that time, and by request of the authorities of Philadelphia, Pa., and Wilmington and Lewes, Del., and until the passage of the act of February 15, 1893, was operated in aid of the local quarantines on the Delaware Bay and River.

The reservation has a water front of 1,500 feet and a depth of 1,200 feet, and is situated one-half a mile distant from the tip of Cape Henlopen, between the cape and the town of Lewes. Of this reservation the greater portion—900 feet on the sea front running back 1,090 feet—is surrounded by a board fence 6 feet in height, inclosing all the quarantine buildings except the surgeon's quarters and boathouse. About 900 feet from the western boundary of the reservation is an iron pier 1,701 feet in length, with a width at the shore end of 21 feet, while the outer 546 feet have a width of 42 feet. This was erected by the Engineer Department of the Army at a total cost of about $368,500. Provisional transfer of the pier was made to the Marine-Hospital Service by Congress in 1890. The depth of water at the end of this pier is 25 feet.

The surgeon's quarters, as stated above, are without the quarantine inclosure, and are two stories in height and are built of brick. They contain the administration offices also. The whole building is well furnished and comfortably fitted up throughout, and contains fifteen rooms.

The boathouse, 48 by 18 feet, is a short distance from the surgeon's quarters nearer the shore line.

Within the inclosure are the two hospitals, steward's quarters, barracks for detained immigrants, dining rooms and kitchen for same, bath house, disinfecting chamber, laundry, boiler house, and artesian well.

The hospitals, two in number and some 600 feet apart, are both situated on the sea front, and the larger one, 60 by 30 feet, two stories in height, includes an addition just completed, increasing the quarters for the hospital steward on duty at the quarantine. This hospital has a capacity of about 20 beds, while the smaller one, 50 by 30, can afford accommodations for about 12 patients.

The immigrant bath house is 86 by 16 feet, with an addition 24 by 16 feet on each end. The bath house contains 20 shower baths and 1 bath tub, with hot and cold water connections to each bath. The additions contain disrobing and dressing rooms. The boiler house and laundry, 20 feet distant from the bath house, is 61 feet 6 inches in length by 21 feet in breadth and is divided into two rooms. The one next the bath house contains the steam disinfecting chamber, constructed by the Kensington Engine Works after designs furnished by P. A. Surg. J. J. Kinyoun, M. H. S. The steam chamber is intended only for the disinfection of wearing apparel of immigrants detained for observation and sickness. It is 4 feet 4 inches by 5 feet 4 inches by 9 feet 6 inches in dimensions and has two cars, which support wire screens upon which the articles to be disinfected are spread before being run into the chamber. The cars run on an iron track, a section of which, sufficient in length to support the car, is itself moveable, and can be brought either to join the track entering the chamber, or to the one running alongside. The boiler house also contains a boiler for generating steam to be used for disinfecting and for running a small engine and pump. The other half of the building, the laundry contains twenty-four stationary washtubs and drying apparatus for the use of the detained immigrants. These two buildings were erected in 1893.

The barracks, which are the next buildings to those just described, consist of two structures, each 300 by 24 feet, and of a clear height of 12 feet. One runs nearly north and south and the other nearly east and west. They are each divided by five partitions into seven compartments of equal size, and contain accommodations for from 800 to 1,000 immigrants. The bunks are built in tiers, three in number, and are similar in arrangement to those in the steerage of a vessel carrying immigrants. Each barrack has an addition 15 by 44 feet in dimensions, containing rooms for nurses and storerooms for sheets, pillows, etc. The barracks are not connected, but in the interval between them is the building containing the dining room for immigrants, kitchen and storerooms. This building is 48 feet square with an addition 18 by 45 feet. The kitchen contains apparatus for cooking by steam and all the most modern appliances for the speedy preparation of food for large numbers of people.

In the rear of the barracks are found the latrines 30 by 10 feet, with a height of 9 feet. Water is supplied to all these buildings by an artesian well situated within the inclosure and driven to a depth of 394 feet. With the use of a pump the daily output of this well—per day of twenty-four hours—is from 18,000 to 21,000 gallons, a quantity sufficient for all purposes required. The water is carried by overhead piping to the buildings and to two large tanks situated near the bath house and which can be seen in the photograph of same.

All the buildings within the inclosure are constructed of wood, and are connected with one another and with the surgeon's quarters by board walks.

As will be observed by the above description of Delaware Breakwater Quarantine, it is fitted up as a place of detention for suspects or for those actually suffering from some quarantinable disease, but as yet nothing has been said about the treatment of the vessel that may have brought such suspects or ill immigrants. Before the summer of 1893 the only vessels required to stop for inspection at Delaware Breakwater were those coming from an infected port or having at time of arrival a disease of a quarantinable character on board. All other vessels were treated at the Philadelphia local quarantine. Disinfection of vessels at the breakwater was practiced by introducing the disinfectant—sulphur usually—from a disinfecting tug laid alongside. But the threatened invasion of cholera during the summer of 1892 made it necessary for all vessels from foreign ports to be rigidly inspected at the breakwater, and it was found that the carrying out of this order entailed great hardships on all concerned. The anchorage at the breakwater quarantine is almost in the open sea, and in rough weather it is sometimes impossible to board a vessel for the purpose of inspection, and, of course, the inspection and disinfection, if necessary, were frequently delayed for some time—perhaps for some days. Furthermore, a vessel arriving at Delaware Breakwater Quarantine at sundown was necessarily detained there until next morning to permit a daylight inspection, and this delay entailed considerable expense and inconvenience, as it was almost impossible for the vessel in that case to discharge her passengers in Philadelphia the same day. It became evident for these reasons that an additional station for inspection and disinfection of vessels was necessary, and it was moreover evident that such station should be nearer Philadelphia. Such action was urged by the Philadelphia Maritime Exchange, and also by a joint committee representing the States of Pennsylvania and Delaware, who further considered the location of the Philadelphia local quarantine so near Philadelphia as a menace to that city. The director of public safety of Philadelphia and a committee of the Pennsylvania legislature and others interested called upon Surgeon-General Wyman to learn what plans he had conceived to meet the exigency of the situation; and the plans since carried into successful execution were laid before them. In the meantime the attention of the Surgeon-General had been directed to Reedy Island as the most suitable place by an officer of the service after consultation with an engineer officer of the Army in charge of improvements in the Delaware River. Situated nearly at the junction of the Delaware Bay and River, the Government already owned the 50 acres at the northern extremity of the island, and this was turned over to the Treasury Department for quarantine purposes. The establishment of this station was urged most strongly also by the legislature of the State of Pennsylvania, a copy of whose resolutions, forwarded by the governor, is as follows:

JOINT RESOLUTION OF PENNSYLVANIA LEGISLATURE.

In the Senate, February 28, 1893.

Whereas the President of the United States will shortly have the disposition of nearly half a million dollars for quarantine purposes;

And whereas the legislature of Pennsylvania is informed that Walter Wyman, Surgeon-General of the Marine-Hospital Service, has strongly recommended to the Secretary of War the extension and improvement of the quarantine service at the port of Philadelphia by establishing a boarding and disinfecting station on Reedy Island, in the Delaware River, which shall be subsidiary to the United States Marine-Hospital Service at Lewes, Delaware;

And whereas the speedy perfection of the Federal quarantine service at the port of Philadelphia is of vital importance not only to the States bordering on the Delaware Bay and River, but to every State in the Union, inasmuch as a large majority of the immigrants landing at the port are transferred direct to other sections of the country, and the danger from the admission of contagious and infectious diseases is great: Therefore, be it

Resolved (if the house concur), That we, while standing ready to assist and cooperate with the Federal authorities in preventing the entrance of the threatened cholera scourge, and being determined to leave nothing undone to establish a thorough and vigilant quarantine guard at the port of Philadelphia, respectfully request the President of the United States to see to it that prompt and sufficient measures are taken to put into effect the plans of the United States Marine-Hospital Service for the improvement of the quarantine system in the Delaware Bay and River; and be it further

Resolved, That the governor of this Commonwealth be respectfully requested to communicate these resolutions to the President of the United States.

E. W. SMILEY,
Chief Clerk of the Senate.

Concurred in March 1, 1893.

CHARLES E. VOORHEES,
Chief Clerk of the House of Representatives.

Approved this 6th day of March, A. D. 1893.

ROBT. E. PATTISON.

OFFICE OF THE SECRETARY OF THE COMMONWEALTH,
Harrisburg, March 10, A. D. 1893.

PENNSYLVANIA, *ss.*

I do hereby certify that the foregoing and annexed is a full, true, and correct copy of the original resolution of the general assembly of the Commonwealth of Pennsylvania approved March 6, 1893, as the same remains on file in this office.

In testimony whereof, I have hereunto set my hand and caused the seal of the secretary's office to be affixed the day and year above written.

A. L. TILDEN,
Deputy Secretary of the Commonwealth.

[Seal of secretary's office, Pennsylvania.]

The site is favorable, being just above Bakers Shoal, so that after inspection or disinfection it is not necessary for vessels to wait for the tide to cover this bar.

An allotment was secured from the epidemic fund for the purpose of constructing and equipping this station in March, 1893, and the work was begun at once, station opened on July 1, 1893, and at the present date is almost completed, the surgeon's quarters, men's quarters, cottage hospital, and boathouse having been constructed under contract during the winter, and are now being erected on Reedy Island.

B.—REEDY ISLAND STATION.

The main structure of the Reedy Island quarantine station is the pier head and disinfecting shed. This pier, situated directly in the channel, is 200 feet long by 40 feet broad, and has a depth of water off its eastern or channel side of 25 feet. It is built of heavy piling driven down to hard bottom and firmly bolted together, and having at each end a double row of piling 50 feet long and a triangular icebreak, constructed of heavy piling and timbers, extending out from this double row of piling 50 feet. The depth of water off the pier allows of the mooring of a vessel directly to the pier during the process of disinfection. On this pier head is the shed for the disinfecting machinery, warehouses, and observatory tower, as well as the quarters occupied at present by the attendants, pending the erection of their new ones. The total length of the building is 196 feet, the 90 feet at the southern end being 36 feet broad, and the northern 106 feet being 23 feet broad. This latter portion is divided into warehouses, and contains one large wooden tank of a capacity of 15,000 gallons. The southern portion, 90 by 36 feet, is divided into two parts, one 16 by 36 feet and one 74 by 36 feet, which contains the following disinfecting machinery: Two steam chambers of the same make and pattern as the one at Delaware Breakwater described below, but larger, viz, each 15 feet long, 5 feet 4 inches high, 4 feet 4 inches in width—placed side by side with trucks and railway, the eastern track, the one nearest the front of the shed, being extended out of the building and running all the length of the northern portion of the pier (the building being here narrowed as mentioned above) so as to permit the loading of the truck directly from the vessel. The shed also contains a sulphur furnace of the Valk & Murdoch, Charleston, type, catch cylinder, exhaust fan, and engine (3-horse power), to run the same, and rubber piping to conduct the fumes of SO_2 from the furnace to the vessel. A 50-horse power boiler supplies steam for the disinfecting chambers, and in addition there is an air pump, a fire and tank pump, and another pump for the purpose of filling the bichloride tank (capacity, 3,000 gallons), which is placed on the roof. (Photographs X–XI.) In this shed is also a tank with a capacity of 3,000 gallons.

During the past winter connection has been made between the station and the Western Union Telegraph Company lines, and to effect this a cable was laid from Port Penn across Reedy Island to the pier head. The cable is 4,800 feet in length, and was laid at a cost of $1,325. An observatory has been erected on the roof of the southern end of the pier, in size 15 feet 9 inches by 17 feet 3 inches, and fitted with telegraph instruments, so that direct telegraphic communication can now be maintained with the station.

The new buildings, located on Reedy Island, comprise a cottage hospital 58 by 29 feet with a wing 19 by 14 feet, attendants' quarters 67 feet 6 inches by 24 feet with a veranda 67 feet 6 inches by 7 feet, and surgeons' quarters 41 feet 2 inches by 41 feet 2 inches with a veranda 8 feet wide all around it. These buildings are erected on piling on the island, so as to be above high water in winter and spring, and are connected by gangways. From these buildings a gangway extends 300 feet to the water, where a boathouse 49 by 28 feet is erected on piling.

The steamer *Louis Pasteur* is used as a boarding boat at the station. She is 87 feet in length, 16 feet beam, and draws 6 feet of water. Vessels are inspected at the station between sunrise and sunset, and the distance from Philadelphia is such that a steamer inspected at Reedy Island in the morning reaches Philadelphia in time to enter and discharge passengers the same day, thus saving both time and money.

Infected vessels are, of course, as heretofore, inspected at the Breakwater, and those exposed to infection taken off and held for observation at the quarantine station there, while the vessel is sent to Reedy Island for disinfection. If a vessel with quarantinable disease fails to stop at the Breakwater, as ordered to do, on inspection at Reedy Island she will be remanded to the Breakwater, if necessary, so that the contagious case and suspected immigrants may be taken off, when she then returns to Reedy Island for disinfection. To quote from the Report of the Secretary of the Treasury for 1893:

"With this plant at Reedy Island and the accommodation for immigrants near the Delaware Breakwater, an efficient quarantine guard has been established for the city of Philadelphia and the other cities on the Delaware River and Bay."

Taking the station at the breakwater and the station at Reedy Island together, there is no quarantine plant in existence superior to this. It is to be hoped that no cholera-laden vessel will arrive at the mouth of Delaware Bay, but should such a vessel appear, carrying immigrants, for example, the care and treatment of both the vessel and the immigrants would be a matter of easy and scientific administration. Those actually sick would be immediately removed to hospital, the remaining immigrants would be immediately marched through the single gate of the inclosure to the bathhouse, where they would be obliged to disrobe and be given a thorough bathing, their clothing in the meantime being passed into the steam disinfecting chamber, near by. Having completed their bath they would be given fresh clothing from the large supply of new material constantly on hand, and they would then be passed into the barracks and kept under close observation. being divided into groups for this purpose. Should cholera appear in any one group, the patient would be removed immediately to hospital, and the five days' detention of that group would begin from the date of the removal of the patient. The danger of the spread of the disease among the detained immigrants would be reduced to a minimum by reason of this grouping. The water supply is from an artesian well, which can not by any possibility become infected.

During the season of 1893, when there was an expectation of the arrival of such a vessel at the breakwater, an arrangement was made by the Surgeon-General with the chief of the Revenue-Marine Service, by which between forty and fifty enlisted men of the Revenue-Cutter Service would be sent from the several vessels of that service stationed in Boston, New York, Baltimore, and Philadelphia, for immediate duty as guards under the immediate command of lieutenants of the Revenue-Marine Service. A regular medical officer of the Marine-Hospital Service is in command of the station, assisted by experienced quarantine officers.

The patients and the "suspects" being thus provided for, the vessel itself would be immediately sent to Reedy Island, where, with the perfect facilities provided, the vessel would be quickly disinfected by fumes of sulphur thrown into its hold, the several apartments washed down with a solution of bichloride of mercury, and the dunnage of the crew and all textile fabrics disinfected by steam in the steam chambers.

No better place could be found for the detention of a large number of suspected immigrants than at the Delaware Breakwater. The high fence and the guard of the Revenue Marine would effectually hold the immigrants within the inclosure, and the very fact of the remoteness of the location adds to its desirability; for it goes without saying that people affected with cholera, or suspected of being infected, can not be too far removed from populous centers. Practically, however, the arrival of a cholera-laden ship would be a very exceptional circumstance, and the ordinary work of quarantine, namely, the inspection of vessels, to find out whether they are free from disease or not, is carried on with great facility at Reedy Island. The pier, which is the boarding station, is in the direct track of vessels bound for Philadelphia, and the inspection, so far as time is concerned, is reduced to a minimum.

A still further guard in this scheme of national quarantine on the Delaware River is the presence in Philadelphia of an experienced medical officer, who is ready at any time to act as the quarantine agent of the Marine-Hospital Bureau in the city. The Surgeon-General is thoroughly impressed, not only with the necessity of keeping out epidemic diseases, but also with the necessity of doing so with the least possible hampering of commerce. His policy has been constantly to so administer the regulations as to avoid all unnecessary delays or embarrassment of vessels.

COST OF PLANTS.

Delaware Breakwater Quarantine:	
Executive buildings	$16,237.00
Barracks	11,971.00
Fence	1,940.00
Bath house	2,500.00
Boiler house and laundry	2,500.00
Boilers (steam), etc	2,100.00
Water towers and tanks	245.00
Steam chambers	2,115.00
Installation of same	1,423.00
Drainpipe	187.00
Artesian well	2,403.00
Pump and water distribution	2,185.00
Addition to surgeon's quarters	1,427.00
	47,233.00
Reedy Island Quarantine:	
Pier with warehouse, observation tower, disinfecting machinery, etc.	$46,422.00
Cable	1,325.00
Surgeon's quarters, cottage hospital, attendants' quarters, boat-house, gangway, sewerage, etc	19,125.00
	66,872.00
	47,233.00
	114,105.00

CAPE CHARLES QUARANTINE, NOVEMBER 30, 1892, TO NOVEMBER 30, 1893.

Vessels disinfected	10
Vessels detained for observation	1
Vessels inspected and passed	354
Vessels spoken and passed	141

British brig *Darpa* arrived July 13, 1893.—Captain died from yellow fever July 11; body still on board upon arrival; two other cases on board upon arrival. One new case developed July 14, 1893.

During the year there have been erected at Fishermans Island a wharf, with warehouse and a gangway to the shore; barracks accommodating 1,600 immigrants; a kitchen, dining-room, and laundry. An artesian well has also been sunk.

The ship *Jamestown*, anchored near Old Point Comfort, has been provided with a steam disinfecting chamber, and a deck house, with accommodations for caring for 300 or more immigrants, and is in itself a supplemental quarantine station, which can be used either for the care of cabin passengers, or a limited number of immigrants held under observation.

South Atlantic Quarantine. Blackbeard Island, Ga., November 30, 1892, to November 30, 1893.

Vessels disinfected	42
Vessels inspected and passed	21

American barkentine *Anita Berwind* arrived June 28. Sent from Brunswick. Captain on barkentine *Berwind* died June 28 of yellow fever at Satilla River.

The additional wharf referred to in the last Annual Report has been completed, and a steam chamber, sulphur furnace, and naphtha launch have been provided. An artesian well has also been driven, located on the wharf.

Brunswick, Ga.

This station was taken possession of by the Government July 20, 1893, but almost immediately thereafter the epidemic of yellow fever appeared in Brunswick.

Key West Quarantine, Dry Tortugas, Fla., November 30, 1892, to November 30, 1893.

Number of vessels disinfected	24

British barkentine *Antilla* arrived from Havana, August 8, with one case of yellow fever on board; died same day.

British barkentine *Dexter* arrived October 4, from Cienfuegos with one case of yellow fever on board; died October 6.

A steam chamber, naphtha launch and whaleboat have been provided for this station during the year.

Gulf Quarantine, November 30, 1892, to November 30, 1893.

Vessels disinfected	66
Vessels inspected and passed	21

American schooner *Richard S. Spofford* arrived June 9, 1893, from Havana, with one case yellow fever; died June 12. American schooner *Jno. C. Smith* arrived July 7, from Havana; one case yellow fever developed three days after arrival. Spanish steamship *Leonora* arrived August 3, from Sagua la Grande, having left two cases yellow fever at Pensacola, Fla. American ship *Fawn* arrived August 14, from Havana; one case yellow fever developed August 18, 1893. Norwegian bark *Eglantine* arrived September 5, from Havana; one case yellow fever developed September 8.

A steam chamber was placed in position upon one of the new pier heads at this station during the year.

THE DESTRUCTION OF THE GULF QUARANTINE STATION ON CHANDELEUR ISLAND BY STORM, OCTOBER 1, 1893—TEMPORARY TRANSFER TO SHIP ISLAND.

The following reports have been received from the medical officer in command of the station:

Gulf Quarantine, *October 4, 1893.*

Sir: Referring to my telegram of the 2d instant reporting the destruction of this station, I have the honor to report the following details:

The hurricane commenced about 8 p. m. on Sunday, October 1, 1893, the wind blowing from the southeast, the water rapidly rising, and a heavy sea sweeping over the island. The only communication between the surgeon's quarters and dispensary and hospital building was soon carried away. This was a light structure recently erected by the attendants. After this the inmates of each building were left to their own unaided resources. The laundress was fortunately saved by being brought up to my quarters shortly before those she occupied were swept away. The hurricane reached its height about 6 a. m. Monday morning, at which time the hospital ward was completely destroyed and carried out to sea. Its inmates at the time are supposed to have been the following five persons, who are missing: Steward L. A. Duckert, Nurse John MacKenzie, Boatman Johan Muller: and two patients, George Salmon, from the American bark *R. Goddard*, and Herman Gallen, from the British steamship *Ravensdale*, the former suffering from an incised wound of chest, the latter from some pulmonary trouble.

It is to be hoped that some of the missing may yet be heard from; but I am of the opinion that the chances are very poor, as at the time of the collapse of the ward the wind had hauled to the southwest, sweeping everything out to sea. Every possible effort has been made to find some trace of them, but without success.

The effect of the storm upon Government property may be briefly stated, as follows: All outbuildings, surgeon's laundry, carré cabin (occupied by female attendant), disinfectant storeroom, condemned-property room, bridges, landings, hospital ward, and pierhead, completely destroyed, not a vestige remaining except a piece of piling here and there; flagstaff blown away.

The remaining buildings are more or less total wrecks, the surgeon's quarters being the worst off, and liable to fall at any moment. The contents of the buildings are either injured or destroyed. Some of the records, I fear, are lost. Of the floating property nothing remains but the steamer *Welch*, the naphtha launch, and the whaleboat. Of these the only serviceable one is the latter. The *Welch* is high and dry on the north point, and I doubt if the naphtha-launch engine can be repaired. Of this, however, I have some hopes.

The effect of the hurricane on the topography of Chandeleur Island has been remarkable. It is completely changed. With very few exceptions every sand hill has been swept away, and nothing remains above water except the marsh grass. Deep cuts have been made through the island at numerous points, two of them directly adjoining the station, to the north and to the eastward. This is a most important factor with respect to the station, inasmuch as it leaves it entirely without protection, and it is now, in fact, equivalent to being in an open sea. It will have to be abandoned.

At the time of the hurricane there were eight vessels in quarantine limits. The following morning they were all missing except the steamship *Ravensdale* and the bark *Ragna*, the latter dismantled.

Very respectfully,
G. M. GUITÉRAS,
Sanitary Inspector Marine-Hospital Service.

SUPERVISING SURGEON-GENERAL MARINE-HOSPITAL SERVICE.

UNITED STATES MARINE-HOSPITAL SERVICE,
DISTRICT OF THE GULF,
Ship Island, November 30, 1893.

SIR: I have the honor to make the following general report of the transactions of this station during the quarantine season of 1893.

The season was practically opened on April 7, 1893, by the arrival of the infected vessel *Walter D. Wallett*, from Santos. Although the regular quarantine season was not supposed to commence until May 1, it was deemed advisable to detain this vessel for disinfection on account of her bad sanitary history, foul condition, and the warm weather already prevailing in this latitude.

From April 7 to November 1, 1893, 81 vessels were treated at this station. This number may be divided as follows, according to the sanitary condition of the vessel and the port of departure:

Infected (that is, having had yellow fever on board)	21
From infected ports, and, therefore, suspected of being infected	28
From suspected ports	18
From clean ports	14
Total	81

There were, therefore, 67 vessels disinfected, in acordance with the national quarantine regulations, and thus far no authentic case has been reported of any of these vessels having developed contagious disease or communicated it to others, after having received pratique from this station.

Those vessels hailing from clean ports, 14 in number, were simply inspected and passed, with the exception of two which were detained for not having a United States consular bill of health. The facts were reported to the Supervising Surgeon-General and the vessels released from quarantine by his orders, there being no reason to suspect any intentional infraction of the law.

Seven cases of yellow fever were treated in hospital during the past season, one of which terminated fatally.

Other diseases treated were as follows:

Disease.	Result.			Remarks.
	Number.	Recovered.	Died.	
Malarial fever, remittent	10	10	0	
Malarial fever, intermittent	1	1		
Tubercle of lung	1		1	Drowned in hurricane.
Acute pleurisy and mitral regurgitation	1	1		Mitral regurgitation only improved.
Lobular pneumonia and pleurisy	1	1		
Diarrhea	1	1		
Incised wound of thorax	1		1	Drowned in hurricane.
Total	16	14	2	

Many improvements were made at this station during the period covered by this report. A detailed description of these is given in my report of July 16, 1893. The more important may be again enumerated here, as follows: Repairs to fumigating steamer *Welch* and to the fumigating and ballast barges. Erection of a flagstaff, 75 feet high. Bridges constructed, communicating between the office building and medical officers' quarters and between the latter and the main island. A floating landing. An instrument cabinet. An iron beacon made and placed in position to mark the channel over the bar. All the above work, with the exception of that mentioned in the first item, was done by the station crew.

A set of awnings for all galleries exposed to the sun was supplied by A. Gerdes, of New Orleans, under advertisement, and put in position at the station. A complete disinfecting plant was erected on the pier head by the contractor, Mr. S. S. Leonard, at a cost of about $7,000.

With the above improvements, and especially the completion of the disinfecting plant, the Gulf quarantine station could be considered a model quarantine station. It was fitted to perform the work for which it was intended in a satisfactory manner, with a minimum of discomfort and delay to shipping, and at the same time efficiently guarding the adjacent coast against the introduction of contagious or infectious diseases from abroad.

It is, therefore, with feelings of deep regret that one who has taken an active interest in the development and perfection of this station during the past two years is now compelled to record its complete destruction. The hurricane which on October 1 swept over the Gulf Coast from west of the Mississippi River to Pensacola on the east destroyed within a few hours the product of the arduous labors of the past five years, completely wrecked the Gulf quarantine station, and almost obliterated the island upon which it stood.

The scene of desolation which presented itself to my view as the storm abated and the surroundings became visible beggars description. But the destruction seen on every hand was nothing to the sad discovery that five lives had been lost among the inmates of the station, and among them that of Hospital Steward Louis A. Duckert, a most efficient officer, intelligent, careful, and attentive to his duties. To him the station was indebted for many improvements which he originated and carried out with his accustomed zeal and enthusiasm.

About noon on October 2 the sea had gone down sufficiently to permit us to use, to some degree of safety, the only boat which had weathered the storm. In this we visited the buildings which still remained standing, and it was then that the sad discovery noted above was made. The rest of that day and the next were spent in futile efforts to ascertain the fate of the missing.

On October 3 Dr. Charles Pelaez, assistant physician, was transferred to Ship Island, with instructions to carry on at that point the work of the Gulf quarantine station, as far as his limited facilities would permit.

On October 8 I removed the whole crew to Ship Island, occupying the old and half-ruined buildings erected some fifteen years previously by the National Board of Health. Here the work of the disinfection of vessels was continued until the close of the quarantine season, November 1, but under many difficulties, for the reason that the fumigating steamer *Welch* could render no assistance, having been driven high and dry on the beach at Chandeleur during the hurricane of October 1. Strenuous and heroic efforts were made by the *Welch's* crew to get her off without assistance. But after working day and night for three weeks it became apparent that it would be impossible to float her with the means at command. A contract was then entered into with the tugs *Toiler* and *Julius-Elbert* to float the *Welch* for $3,000. After three days' work, during which the contractors were aided by the most favorable weather, the work was successfully accomplished without material injury to the vessel.

During the past quarantine season the relations between this National Quarantine Station and the local health authorities in this vicinity have not been entirely harmonious, they still persisting in the plan of ignoring the helping hand of the national quarantine, while, at the same time, accepting and, indeed, demanding its aid.

Very respectfully,
G. M. GUITÉRAS,
Passed Assistant Surgeon, Marine-Hospital Service.

SUPERVISING SURGEON-GENERAL U. S. MARINE HOSPITAL SERVICE,
Washington, D. C.

UNITED STATES MARINE-HOSPITAL SERVICE,
DISTRICT OF THE GULF,
Ship Island, Mississippi, November 27, 1893.

SIR: I am again compelled to report disaster to this section by the elements. A strong southeast gale blew all day yesterday culminating at midnight in a hurricane, which deluged everything, tearing tents covering the surplus goods saved from Chandeleur, exposing the contents to the wind and rain, blowing in and breaking window sashes and shutters, ruining furniture, bedding, clothing, stoves, tents, carpets, kitchen utensils, subsistence stores, and many medical supplies, as well as our personal effects. Two wharves recently erected were completely swept away. The small boats suffered somewhat. One skiff and several pairs of oars are missed and another skiff blown away, but subsequently found. It is evident that the two buildings here are not adapted for the purpose of even temporary dwellings or storage houses. I therefore again respectfully recommend that if it is not deemed advisable to repair them at once or build new ones, this station be closed and the property remaining be left in charge of two watchmen; and if the Bureau considers it essential to keep a general control or supervision over this quarantine station, I would recommend that the steamer *Welch* be kept in commission, to be used for boarding purposes, and that the medical officer in command of the station have his headquarters at Biloxi pending the establishment of the new Gulf quarantine station.

Very respectfully,
G. M. GUITÉRAS,
Passed Assistant Surgeon Marine-Hospital Service.

SUPERVISING SURGEON-GENERAL U. S. MARINE-HOSPITAL SERVICE,
Washington, D. C

SAN DIEGO QUARANTINE, NOVEMBER 30, 1892, TO NOVEMBER 30, 1893.

Vessels inspected and passed	118
Vessels spoken and passed	5

During the year officers' quarters, attendants' quarters, a laundry, and boathouse and naphtha launch have been provided for this station.

SAN FRANCISCO QUARANTINE.

Infected steamer *Belgic* arrived February 20, 1893. One case smallpox en route, left at Honolulu. Steerage held under observation at station. Released February 22.

Pacific mail steamer *China* arrived February 1, 1893. Disinfected baggage of 130 Chinese and Japanese.

Pacific mail steamer *City of New York* arrived April 4, 1893. One case smallpox received at station. Released cabin passengers April 18. Baggage and clothing disinfected.

Steamer *Oceanic* arrived October 4, 1893. Unlabeled baggage of steerage passengers disinfected.

Passed Assistant Surg. Carmichael reports as follows under date of March 6, 1893:

SIR: I have the honor to inform you that there has been disinfected at this station the following-named property of immigrants :

Personal effects and baggage of 60 Chinese and Japanese immigrants, arrived by Pacific mail steamer *City of Peking*, and numbering 182 pieces, by steam and dry heat, at National Quarantine Station, February 6, 1893.

Personal effects and baggage of 171 Chinese and Japanese immigrants arrived by Occidental and Oriental steamer *Belgic*, and held for observation at quarantine, numbering 361 pieces, by steam and dry heat, at National Quarantine Station, February 22, 1893.

Personal effects and baggage of 37 Chinese, Japanese, and European immigrants, arrived by Pacific mail steamer *Peru*, and numbering 135 pieces, by sulphur dioxide, on board the vessel, February 24, 1893.

Personal effects and baggage of 56 Chinese and Japanese immigrants, arrived by Occidental and Oriental steamer *Oceanic*, and numbering 137 pieces, by sulphur dioxide, on board the vessel, March 6, 1893.

During the year the barracks erected by the steamship companies have been purchased and put in thorough repair by the Government. The reservation has been surrounded by a fence. The U. S. S. *Omaha*, turned over to this Bureau by the Navy Department, has been decked over and repaired and otherwise made capable of accommodating detained passengers.

PORT TOWNSEND QUARANTINE STATION, DIAMOND POINT, NOVEMBER 30, 1892, TO NOVEMBER 30, 1893.

Vessels disinfected	1
Vessels held under observation	1
Vessels inspected and passed	102

A wharf, warehouse, hospital, laundry building, and surgeon's quarters have been erected during the year. Plans have been drawn for the disinfecting machinery. The U. S. S. *Iroquois*, turned over to this Bureau by the Navy Department, has been housed over, was towed by revenue cutter from San Francisco to Port Townsend and put in condition for the reception of quarantine cases pending the completion of the quarantine plant proper.

HISTORY OF THE CHOLERA EPIDEMIC OF 1893.

The cholera epidemic of 1893 in Europe is to be considered as a survival and continuation of the epidemic of the preceding year. Reports received up to the close of December, 1892, indicated that cholera was still present in Austria-Hungary, Belgium, France, Germany, the Netherlands, and Russian Poland.

The recent history of cholera epidemics shows the tendency of cholera to domicile itself where it has gained a foothold, and that if in foreign soil it finds a favorable medium for its development and propagation, it persists in the form of occasional cases and forms a focus of infection when the conditions for its germination and diffusion present themselves. These conditions are found in unsanitary local features and in contaminated water supply. It is at this point that the science of sanitation meets the problem of eliminating diseases by creating hygienic local conditions and preventing contamination of the water supply of towns and cities.

In European communities, where cholera exists as an importation, sanitation should be an effective safeguard against choleraic outbreaks. In the East, where the conditions for the germination of cholera are always present, the problem is more difficult of solution. Here it has to deal with natural causes which are climatic and therefore constant and invariable, and with great concourses of people which offer all that the disease requires to force it to a sudden outbreak. The annual pilgrimages to Hurdwar, in India, and to the Hedjaz, in Arabia, bring great numbers of people together under conditions which are in the highest degree unsanitary. These pilgrimages are made by sea and land caravan. When cholera is studied at its endemic source, in Lower Bengal, its origin in the human organism and its diffusion by human means are lost sight of, and natural agencies outside of man appear as its originators and disseminators. When, however, the disease is imported into countries where the climatic conditions are different, its direct transmission by infection is indubitable. At the season of greatest heat pilgrims from the endemic area of cholera disperse themselves over northern India, Persia, and Arabia. The transportation of bodies of pilgrims and others by caravan is a menace to the health of the regions lying along the caravan route. During the month of Moharrem as many as 60,000 people arrive at Kirmanschah, in Persia, bringing bodies for interment in the holy places of Kerbela. These conditions are matters of tradition and religious custom in the East, and political and national considerations increase the difficulty of dealing with them.

If a cholera epidemic is kindled in Arabia or Persia it is quickly carried, by way of the Black Sea ports, to European centers. It is therefore essential to the protection of Europe against choleraic invasion to prevent the formation of cholera foci on European frontiers. The means to this end are maritime quarantine in the Red Sea and Persian Gulf, and sanitary supervision of travel by sea and land caravans. International intervention in the formulation and carrying out of such a system seems indispensable. The United States are directly interested in the success of the measures proposed, as immigration from Europe is liable to place us in close relation with infected ports.

A review of the cholera epidemic of 1893 shows the prevalence of cholera throughout the world during the several months of the year, as follows:

In January cholera was present in Germany at Nietleben, Altona, and Hamburg, in Russia, in France, and at the lazaretto on the Island of Cameran in the Red Sea.

The outbreak at Nietleben occurred at the lunatic asylum, with a total of 114 cases and 45 deaths. It was attributed to the use of contaminated drinking water. The town of Nietleben is supplied with water from the river Saale, which receives the sewage of several large towns, notably Leipzig, above the point at which the water of the Saale is directed into the Nietleben reservoir. With regard to cholera at Altona and Hamburg it should be noted that the epidemic of 1892 severely affected Hamburg, while it almost entirely spared Altona and Wandsbeck, which form with Hamburg practically one city. Wandsbeck derives its water supply from a lake which is only slightly liable to contamination, while Altona and Hamburg are supplied with water from the Elbe. The supply for Hamburg is taken at a point where the river is comparatively untainted; that for Altona is drawn lower down where the river is much more foul, owing to its having received the sewage of Hamburg. At Hamburg the water was delivered unfiltered, at Altona filtered. Of the 500 cases of cholera at Altona 400 were shown to have been imported from Hamburg. One group of houses in Hamburg which was served from the Altona water supply was completely exempt.

In France cholera deaths were reported from the department of Morbihan. It will be remembered that the epidemic of 1892 in France had a distinctly different source from that which entered Europe from the East. It originated at Nanterre, in the vicinity of Paris, and was undoubtedly a recrudescence of the epidemic of the preceding year. From Nanterre it spread to Paris and thence to the northwestern seaport towns, where it lingered during the winter of 1892 and 1893.

The outbreak at the lazaretto on the Island of Cameran occurred in a detachment of troops from Yemen who were landed from the transport ship *Adana*. Total number of deaths, 39.

In February there was a sharp outbreak of cholera at Marseilles, France, but the disease did not become epidemic. In Russia cholera was reported present in fourteen provinces during January and February, with a total of 973 cases and 369 deaths.

In March cholera was present at Moscow, Russia, at L'Orient, and at Marseilles, France. The outbreak at Moscow occurred in the convict prison. At L'Orient cholera recurred after a cessation of a month and a half, with a total of 70 deaths. In Marseilles the disease did not assume an epidemic form.

In April cholera appeared in Austria, on the Russian-Polish frontier, and spread thence over a large part of southeastern Hungary. In France the epidemic diffused itself through localities in the vicinity of L'Orient.

In May cholera was epidemic at Marseilles, in L'Orient and its vicinity, and in Russia. A choleraic death was reported May 27, at Neustadt, in the vicinity of Hamburg.

In L'Orient and vicinity, up to May 9, 478, cholera cases and 178 deaths were reported. In Russia, up to May 19, cholera was reported present in twenty out of the sixty provincial governments of European Russia, and in three provinces in the Caucasus, with a total of 2,388 cases and 733 deaths. In Podolia alone there were 1,690 cases and 463 deaths.

In June cholera was diffused throughout Russia. In France it developed in the southern provinces and invaded Cette, Nimes, Toulon, Montpellier, Alais, and the Basses-Alpes, with a total of 343 deaths during the first half of the month.

In July cholera was officially declared epidemic in several provinces of Russia. At Moscow, up to July 21, 151 cases and 39 deaths had been reported. On July 28 the first case occurred at Antwerp, Belgium, in the person of a river boatman. In France official reports showed a wide distribution of cholera with an inconsiderable number of cases and deaths. From Mecca, Minah, and Djeddah in Arabia, 8,742 deaths from cholera were reported from the opening of the pilgrim season to July 31. The total number of pilgrims arrived in the Hedjaz up to that date was estimated at 93,000. At Smyrna a cholera focus formed, with a total of 238 cases and 166 deaths. The disease was said to have been imported into Smyrna on a French vessel.

In August cholera was found to be present in Russia in 48 provinces, with a total, from the date of outbreak, of 10,640 cases and 3,780 deaths. The course of the epidemic had been steadily westward.

On August 18, 3 cases were observed in Berlin.

In France the total number of cases officially reported up to August 15 was 1,530. Of this number 500 were reported from Brest and 601 from Marseilles. The absolute statistics of the epidemic in France can not now be stated.

In Italy an outbreak of cholera occurred in the provinces of Cuneo and Alessandria (Piedmont), about 50 cases and 30 deaths being observed in a dozen separate but small communities. At Naples an outbreak of cholera occurred, with a total of 434 cases and 360 deaths; at Rome, 14 cases and 7 deaths were reported; at Sulmona, 229 cases and 53 deaths.

On August 22 the presence of cholera in epidemic form was officially recognized in Austria-Hungary. The total number of cases and deaths as officially reported was as follows: Galicia, 1,284 cases, 742 deaths; Hungary, 798 cases, 1,015 deaths; Roumania, 700 cases.

In Holland the first case officially recognized as cholera occurred at Haringsvlidhoven, in the vicinity of The Hague, August 21.

Cholera cases and deaths continued to be reported from many localities along the canals. These inland waterways intersect the country in all directions and connect the small interior towns and villages with the seaports, thus greatly increasing the facilities for the diffusion of the epidemic. The total number of cases and deaths reported was not large, but the persistence of the disease in Holland is another evidence of its tendency to become domiciled.

In 1892 cholera was introduced into Holland direct from Hamburg. In 1893 it appeared under circumstances which showed it to be a recrudescence of the epidemic of the preceding year.

In Senegambia, Africa, at the French colonial settlement of St. Louis, cholera was reported present, with a daily average of 60 deaths. It was also present in Algiers, Senegal, and Tunis, at the pilgrim quarantine station of El Tor on the Isthmus of Suez, with a mortality of 10 per cent, and at Mogodor, the quarantine station on the coast of Morocco, with 44 cases and 10 deaths.

On August 3, the immigrant ship *Karamania*, from Naples, arrived in New York harbor with cholera on board. While the vessel was detained at the New York quarantine 18 cases and 3 deaths occurred among the passengers.

During the last week in August 1 case and 1 death were observed at Jersey City.

In September the cholera epidemic in Russia had pushed as far north as Finland, where it was reported present in several localities. Comparative statistics of the epidemics of 1892 and 1893 in Russia show a greatly diminished degree of intensity within an enlarged area of prevalence.

Cholera outbreaks occurred in Germany; at Hamburg, with a total of 83 cases and 43 deaths, and at Stettin, with a total of 112 cases and 50 deaths. In Spain cholera broke out in the province of Viscaya, on the French frontier.

At Antwerp, from the date of the outbreak, July 28, to September 15, 131 cases and 90 deaths were reported for city and district; from September 15 to 30, 47 cases.

At Leghorn cholera was reported present.

In England a choleraic outbreak occurred which in some respects merits particular attention.

The localities at which the epidemic was first declared were Grimsby and Hull, two neighboring seaport towns on the Humber. In the absence of careful medical inspection of incoming vessels at these ports the origin of the epidemic can not be traced, but it seems probable that Antwerp, which stands in close commercial relations with both places, was the starting point. Some authorities have found the source of the disease in local causes and have shown the sanitary conditions of Grimsby to have been exceedingly unfavorable. The drains of the town are tide locked twice a day, and the sewage of Grimsby and the neighboring town of Cleesthorpe swings back and forth with the tide over an area of sand beach a mile or more in extent. On this beach, when left exposed at low tide, shellfish were gathered by the people. In point of symptoms, rapid fatality, *post mortem* appearances, and bacteriological tests, the cholera of 1893 in England was indistinguishable from the cholera which prevails in the valley of the Ganges in India. It has been suggested on medical authority that the epidemic in England was a recrudescence from germs imported during the preceding year.* The disease was probably present in epidemic form during the greater part of the month of August, but the facts were concealed by the authorities. At Hull the authorities promptly gave notice of the presence of cholera and the epidemic was arrested. From the two centers of Grimsby and Hull the epidemic spread to other localities. A case of cholera was reported as far north as Stromness, in the islands of the Hebrides, in the person of a sailor from Grimsby.

Official reports covering the period from the date of the first case officially declared to September 30 give 157 cases of cholera or choleriform affections, 17 deaths, at Hull; at Grimsby, 120 cases, 32 deaths; London, 4 cases; Cleesthorpe, 14 cases, 6 deaths, and at 34 other localities, 44 deaths. A noticeable fact in regard to the cholera epidemic of 1893 in England, as in other countries, is the outbreak of a number of small epidemics outlining a wide area of prevalence.

In France cholera cases and deaths continued to be reported in decreasing numbers at places previously reported infected.

At Constantinople an outbreak of cholera occurred with a total, as officially reported by the Ottoman authorities, of 349 cases, 208 deaths. At Scutari, in the vicinity of Constantinople, 112 cases and 75 deaths were reported. A number of cases, total not given, were observed at Anatolia. These were traced to passengers by the steamship *Adana*, which plied during the summer between infected ports.

On October 6 cholera again broke out at Grimsby, England, after a cessation of thirteen days, with 5 cases and 2 deaths.

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*British Medical Journal, September 9, 1893.

At Leghorn the epidemic reached the maximum of intensity October 14 and 15, with 73 cases and 37 deaths.

At Antwerp, from October 1 to 16, 27 cases and 12 deaths were reported.

The epidemic was probably much more widely diffused throughout Belgium than the official reports show. Cholera was still present in October in the province of Viscaya, Spain, and in the localities in France previously reported infected.

At New York Quarantine 1 case and 1 death occurred among passengers by the steamship *Russia.* On November 9 cholera was reported extinct at Leghorn and Palermo. At the latter place, up to November 2, 968 cases and 507 deaths were reported. In Spain, from the date of the outbreak in September, to November 15, 1,117 cases and 473 deaths were reported.

It will be seen from the last statement that cholera in Europe had not become extinct by the middle of November, 1893.

List of places at which cholera was reported present in calendar year 1893:

Africa—Ain M'sila, Algeria; Alexandria, Egypt, at lazaretto; El Ghenob, Algeria; El Tor, Egypt: Goree Dakar, Senegal; Khroubs, Algeria; Mex, Egypt, quarantine station; Mogodor, Morocco, quarantine station; St. Louis, Senegambia.

Arabia—Djeddah, Mecca; Medina, Mecca.

Austria—Bosnia—Bryeka, Dolnja, Tuzla, Gracanica, Gradacec.

Bulgaria.—Kadikin, Ruschtschuk, Tutrakan.

Croatia—Belisec, Essegg, Jamina, Topalge, Vitogewic, Vrbanje.

Galicia—Belgec, Boharzany, Borszezow, Brzerko, Bukowina, Czartkow, Delatyn, Dobrotow, Dolnia, Dora, Jamna, Kasso, Kalomea, Kudrynce, Limanowa, Nesko, Nikuliczgn, Novosialka, Olvidiopol, Paneowa, Peczeniczgn, Rohatyn, Saybusch, Simiatyn, Tarnopol, Tortarow, Zalucze, Zbrucz, Zielen, Zygaczow.

Hungary—Altofen, Arad, Arva, Bacz, Bekes, Belgrade, Beregher, Bihar, Bodrogh, Borsod, Brasso, Buda Pesth, Cronstadt, Cyanod, Czongrod, Dées, Doborska, Erlau, Fogares, Jasz, Hajan, Hermanstadt, Heves, Kalascz, Kiskum, Klausenberg, Komorn, Krasso, Kukulto, Marmoroser, Nagy-Kun-Szolnok, Ngocza, Pest Pilio Salt, Raho, Semlin, Som, Stuhlweissenburg, Szabolcz, Szalnok, Szalthmar, Szeben, Szöreinj, Tolna, Tora, Arangos, Unter Altofen.

Roumania—Braila, Bucharest, Calaraschi, Cernawoda, Costanza, Dorohar, Galatz, Guirgewo, Fetesti, Jalowitz, Neamtza, Prabowa, Tekoutschi, Vlaska.

Belgium—Antwerp (city and province), Boam, Brussels, Charleroy, Damprémy, Luttich, Santvlitt, Willebrock.

Brazil—Rio de Janeiro, San Paulo.

France—Alais, Aubenas, Aubervilliers, Avignon, Basses Alpes (district), Bordeaux, Brest, Cadié, Carcassonne, Chantenay, Cette, Conquet, Cuers, Franqubergue, Frontignan, Guipavas, Hyéres, Islands of Molene and Trielen, Lambezellec, Larcat, La Seyne, La Vallette, Lemel, Limoges, Lorient (district), Marseilles, Mines, Mirepoix, Montarnaud, Montpellier, Nantes, Nimes, Nice, Olette, Palavas, Pamiers, Pas de Calais, Pierre Benite, Perpignan, Privas, Saint Pons, Salon, Sorgues, St. Nazaire, Toulon, Toulouse, Vannes (district).

Germany—Alt Drewitz, Altenwerder, Altona, Andernach, Ballinken, Barmen, Berlin, Bodenwerder, Coblentz, Cologne, Damnatz, Duisburg, Emmerich, Frauendorf, Gartz, Geestemunde, Hamburg, Homberg, Hohenwützen, Heerdt, Itzehac, Kirschborgum, Kiel, Kratzwick, Mayence, Meiderick, Neuweid, Neu Schaumberg, Niederfinow, Niederkränich, Palitz, Schwinemünde, Solingen (paper mills), Stettin; St. Goars, St. Goarshaven, Stowen, Sydosane.

Great Britain—Appleton le Street, Ashborne, Ashton, Balby, Bingley, Blyth, Bradford, Caton Mill, Denton, Derby, Gainsborough, Gloucester, Grimsby, Hartlepool, Hull, Ilkeston, Ingrow, Keihley, Leeds, Leicester, Liverpool, London, Low Moor, Maldon, Manchester, Mansfield, Middleton, Mitcham, New Castle on Tyne, North Bierley, Rawmarsh, Retford, Rotherham, South Shields, Stromness (Hebrides Islands), Tevidale, West Malling, Yarmouth.

India—Calcutta.

Italy—Anna Capri, Alessandria (province of), Aquila, Aversa, Avezzano, Bagni di Lucca, Barra, Bubbio, Busa, Caivano, Campalasso, Canerta, Capeccio, Capri, Cassino, Castellamare, Cueno (province of), Cussignocco, Feddio, Fiumicono, Florence, Foggia, Fresonare, Gaeta, Genoa (harbor), Lattissamento, Leghorn, Lucca, Maddaloni, Montegioco. Naples, Nocera, Aviglio, Palermo, Patti, Pavia, Pellerano, Perugia, Pescina, Piedmont, Pisa, Procida (Island of), Roccanerano, Rome, Salerno, San Giovani à Teduccio, San Guliano Vecchio, San Remo, San Rocco, San Salvatore, Scaferti, Sorrento, Sulmona, Torre Annunziata, Torre Garfali, Trapani, Triventi.

Japan—Hioga, Osaka.

Netherlands—Alphen, Ameide, Amsterdam, Avereest, Colworden, Delft, Deventer, Dubbledam, Durgerdam, Elden, Giesendam, Hague, Hansweert, Herzogenbusch, Heukelom, Huissen, Kedichen, Koog on the Zaan, Kralingen, Leerdam, Maasluis, Molenaarsgraaf, Nieuwettering, Oldebrock, Ostburg, Oudshoorn on the Rhine, Ouwerschie, Puttershock, Renkum, Rotterdam, Rozendale, Rumpt, Steefkerk, Ter Neusen, Utrecht, Werkendam, Wonbrugge, Ysselmonde, Zaandam, Zuilichem, Zwigndrecht.

Russia—Governments of Astrachan, Bessarabia, Charkoff, Cherson (district), Don province, Dorpat, Ekaterinislow, Elisawetpol, Grodno, Jelissawetpol, Kaluga, Kieff, Kharkoff, Khazan, Khorsach, Kostroma, Kovno, Kuban, Kursk, Kutais, Lomza, Lublin, Minsk, Moscow, Nicolaieff, Nijnii-Novgorod, Novocherkask, Orel, Orenberg, Orloff, Perm, Penza, Petersburg, Plock, Podolia, Podolsk, Poltava, Poti, Pskow, Prasngsz, Radom, Redout-Kale, Reval, Riazan, Sakatala, Samara, Saratow, Sebastopol, Schachtnaja, Simbvisk, Smolensk, Stovropol, Tambow, Taurida, Terek, Tersk, Tiflis, Tobolsk, Tomsk, Tschernigow, Tula, Tver, Viatka, Vilna, Vladimir, Volinsk, Volhymnia, Voronesch, Warsaw. Yarosloff. Cities: Alexandropol, Baku, Batoum, Bialystok, Bulsk, Brozlow, Cronstadt, Ekaterinislow, Helsingfoes, Kertsh, Kieff, Moscow, Nijnii-Novgorod, Poti, Rostoff, St. Petersburg, Sebastopol, Tiflis, Warsaw.

Servia—Belgrade.

Spain—Provinces: Alava, Biscay, Cordoba, Corunna, Guipuzcoa. Towns: Abando, Algorta, Arboleda, Arrigarriaga, Baracaldo, Begona, Berango, Bilboa, Campillo, Catalonia, Deusto, Echavarria, Erandio, Franco-Belga, Gallerta, Guenes, Las Arenas, Labarga, La Concha, Lejona, Matamoras, Mungnia, Orconera, Ortuella, Portugallete, Pucheta, Sestao, Turre, Zalle.

Turkey—Aboulhassih, Abovdjeruil, Abrufarsie, Avassum, Bagdad, Bassorah, Constantinople, Chatra-Amara, Djilila, Guermah, Hai, Hassan-Hayoun, Aamissieh, Kut, Menasin, Mohammerah, Mountefik, Nazrieh, Shouk ei Sheouk, Smyrna, Tau, Zolen, Zubeir.

CHOLERA ON VESSELS. (*Calendar year 1893.*)

Cholera was reported on board vessels as follows:

Affondatore, naval vessel, in quarantine at Naples, number of cases not reported.

Bona, at Gravesend, England, from Bassorah, 1 case.

Carlo, immigrant ship from Naples to Brazil, 220 cases.

George Fisher, at Malta, from Roumania, 3 cases, 1 death.

Gergowa, at Marseilles, from Djeddah, 20 deaths during voyage.

Hjalmar, at Hadersleben, North Germany, from Kiel, 2 cases.

Karamania, at New York Quarantine, immigrant ship from Naples. 18 cases, 3 deaths.

Millfield, at Malta, from Roumania, 6 cases, 2 deaths.

Myrtle Branch, at New Castle on Tyne, from Nantes, 1 case.

Natal, French steamship, at quarantine station of Mex, Egypt, number of cases not reported.

Remo, immigrant ship from Naples to Brazil, 87 cases.

Russia, at New York Quarantine, from Hamburg, 1 case, 1 death.

GENERAL APPREHENSION WITH REGARD TO INTRODUCTION OF CHOLERA INTO THE UNITED STATES IN 1893, AND CONGRESSIONAL LEGISLATION RESULTING THEREFROM.

The widespread prevalence of cholera throughout Europe in 1892, and its presence at the New York Quarantine, and in New York City as well, together with the fact of its continued persistence abroad during the cold months, gave rise to much anxiety to sanitarians and the general public with regard to the coming summer of 1893. The daily newspapers were filled with opinions of health officers, sanitary experts, and physicians, unanimously agreeing upon the great danger which seemed to be impending. This apprehension was largely increased by reason of the World's Columbian Exposition, which was to be opened in May, 1893, which would necesssarily cause a large influx of visitors and importation of merchandise from portions of Europe that were likely to be infected.

Moreover, the success of this exposition seemed to be imperiled, for it was obvious that, should cholera gain a foothold in Chicago, or in any portion of the United States, it would seriously affect, if not actually ruin, financially, the enterprise in which large sums of money would be invested; and it was asserted in a warning manner that the financial failure of this enterprise, coming at a time of great business depression throughout the country, would create a general financial panic.

The chief source of danger appeared to be in the steadily maintained immigration to the United States. So serious was the situation that the Senate Committee on Immigration, being empowered by a resolution of the Senate to investigate the workings of the laws of the United States relative to immigration from foreign countries, etc., included within their inquiry the subject of suspension of immigration for one year, and called before them a number of prominent physicians and sanitarians for expressions of opinion as to the character and extent of the danger of the advent of cholera, particularly through immigration, and the measures necessary for its prevention. As a result of this apprehension and the widespread discussion of the matter in the public prints Congress passed a law, entitled "An act granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service," which was approved by the President February 15, 1893. The following is a copy of the act:

AN ACT granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service.

[Approved February 15, 1893.]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That it shall be unlawful for any merchant ship or other vessel from any foreign port or place to enter any port of the United States except in accordance with the provisions of this act and with such rules and regulations of State and municipal health authorities as may be made in pursuance of, or consistent with, this act: and any such vessel which shall enter, or attempt to enter, a port of the United States in violation thereof shall forfeit to the United States a sum, to be awarded in the discretion of the court, not exceeding five thousand dollars, which shall be a lien upon said vessel, to be recovered by proceedings in the proper district court of the United States. In all such proceedings the United States district attorney for such district shall appear on behalf of the United States; and all such proceedings shall be conducted in accordance with the rules and laws governing cases of seizure of vessels for violation of the revenue laws of the United States.

SEC. 2. That any vessel at any foreign port clearing for any port or place in the United States shall be required to obtain from the consul, vice-consul, or other consular officer of the United States at the port of departure, or from the medical officer where such officer has been detailed by the President for that purpose, a bill of health, in duplicate, in the form prescribed by the Secretary of the Treasury, setting forth the sanitary history and condition of said vessel, and that it has in all respects complied with the rules and regulations in such cases prescribed for securing the best sanitary condition of the said vessel, its cargo, passengers, and crew; and said consular or medical officer is required, before granting such duplicate bill of health, to be satisfied that the matters and things therein stated are true; and for his services in that behalf he shall be entitled to demand and receive such fees as shall by lawful regulation be allowed, to be accounted for as is required in other cases.

The President, in his discretion, is authorized to detail any medical officer of the Government to serve in the office of the consul at any foreign port for the purpose of furnishing information and making the inspection and giving the bills of health hereinbefore mentioned. Any vessel clearing and sailing from any such port without such bill of health, and entering any port of the United States, shall forfeit to the United States not more than five thousand dollars, the amount to be determined by the court, which shall be a lien on the same, to be recovered by proceedings in the proper district court of the United States. In all such proceedings the United States district attorney for such district shall appear on behalf of the United States; and all such proceedings shall be conducted in accordance with the rules and laws governing cases of seizure of vessels for violation of the revenue laws of the United States.

SEC. 3. That the Supervising Surgeon-General of the Marine-Hospital Service shall, immediately after this act takes effect, examine the quarantine regulations of all State and municipal boards of health, and shall, under the direction of the Secretary of the Treasury, cooperate with and aid State and municipal boards of health in the execution and enforcement of the rules and regulations of such boards and in the execution and enforcement of the rules and regulations made by the Secretary of the Treasury to prevent the introduction of contagious or infectious diseases into the United States from foreign countries, and into one State or Territory or the District of Columbia from another State or Territory or the District of Columbia; and all rules and regulations made by the Secretary of the Treasury shall operate uniformly and in no manner discriminate against any port or place; and at such ports and places within the United States as have no quarantine regulations under State or municipal authority, where such regulations are, in the opinion of the Secretary of the Treasury, necessary to prevent the introduction of contagious or infectious diseases into the United States from foreign countries, or into one State or Territory or the District of Columbia from another State or Territory or the District of Columbia, and at such ports and places within the United States where quarantine regulations exist under the authority of the State or municipality which, in the opinion of the Secretary of the Treasury, are not sufficient to prevent the introduction of such diseases into the United States, or into one State or Territory or the District of Columbia from another State or Territory or the District of Columbia, the Secretary of the Treasury shall, if in his judgment it is necessary and proper, make such additional rules and regulations as are necessary to prevent the introduction of such diseases into the United States from foreign countries, or into one State or Territory or the District of Columbia from another State or Territory or the District of Columbia, and when said rules and regulations have been made they shall be promulgated by the Secretary of the Treasury and enforced by the sanitary authorities of the States and municipalities, where the State or municipal health authorities will undertake to execute and enforce them; but if the State or municipal authorities shall fail or refuse to enforce said rules and regulations the President shall execute and enforce the same and adopt such measures as in his judgment shall be necessary to prevent the introduction or spread of such diseases, and may detail or appoint officers for that purpose. The Secretary of the Treasury shall make such rules and regulations as are necessary to be observed by vessels at the port of departure and on the voyage, where such vessels sail from any foreign port or place to any port or place in the United States, to secure the best sanitary condition of such vessel, her cargo, passengers, and crew; which shall be published and communicated to and enforced by the consular officers of the United States. None of the penalties herein imposed shall attach to any vessel or owner or officer thereof until a copy of this act, with the rules and regulations made in pursuance thereof, has been posted up in the office of the consul or other consular officer of the United States for ten days, in the port from which said vessel sailed; and the certificate of such consul or consular officer over his official signature shall be competent evidence of such posting in any court of the United States.

SEC. 4. That it shall be the duty of the Supervising Surgeon-General of the Marine-Hospital Service, under the direction of the Secretary of the Treasury, to perform all the duties in respect to quarantine and quarantine regulations which are provided for by this act, and to obtain information of the sanitary condition of foreign ports and places from which contagious and infectious diseases are or may be imported into the United States, and to this end the consular officer of the United States at such ports and places as shall be designated by the Secretary of the Treasury shall make to the Secretary of the Treasury weekly reports of the sanitary condition of the ports and places at which they are respectively stationed, according to such forms as the Secretary of the Treasury shall prescribe; and the Secretary of the Treasury shall also obtain, through all sources accessible, including State and municipal sanitary authorities throughout the United States, weekly reports of the sanitary condition of ports and places within the United States, and shall prepare, publish, and transmit to collectors of customs and to State and municipal health officers and other sanitarians weekly abstracts of the consular sanitary reports and other pertinent information received by him, and shall also, as far as he may be able, by means of the voluntary cooperation of State and municipal authorities, of public associations, and private persons, procure information relating to the climatic and other conditions affecting the public health, and shall make an annual report of his operations to Congress, with such recommendations as he may deem important to the public interests.

SEC. 5. That the Secretary of the Treasury shall from time to time issue to the consular officers of the United States and to the medical officers serving at any foreign port, and otherwise make publicly known, the rules and regulations made by him, to be used and complied with by vessels in foreign ports, for securing the best sanitary condition of such vessels, their cargoes, passengers, and crew, before their departure for any port in the United States, and in the course of the voyage; and all such other rules and regulations as shall be observed in the inspection of the same on the arrival thereof at any quarantine station at the port of destination, and for the disinfection and isolation of the same, and the treatment of cargo and persons on board, so as to prevent the introduction of cholera, yellow fever, or other contagious or infectious diseases; and it shall not be lawful for any vessel to enter said port to discharge its cargo, or land its passengers, except upon a certificate of the health officer at such quarantine station certifying that said rules and regulations have in all respects been observed and complied with, as well on his part as on the part of the said vessel and its master, in respect to the same and to its cargo, passengers, and crew; and the master of every such vessel shall produce and deliver to the collector of customs at said port of entry, together with the other papers of the vessel, the said bills of health required to be obtained at the port of departure and the certificate herein required to be obtained from the health officer at the port of entry; and that the bills of health herein prescribed shall be considered as part of the ship's papers, and when duly certified to by the proper consular officer or other officer of the United States, over his official signature and seal, shall be accepted as evidence of the statements therein contained in any court of the United States.

SEC. 6. That on the arrival of an infected vessel at any port not provided with proper facilities for treatment of the same, the Secretary of the Treasury may remand said vessel, at its own expense, to the nearest national or other quarantine station, where accommodations and appliances are provided for the necessary disinfection and treatment of the vessel, passengers, and cargo; and after treatment of any infected vessel at a national quarantine station, and after certificate shall have been given by the United States quarantine officer at said station that the vessel, cargo, and passengers are each and all free from infectious disease, or danger of conveying the same, said vessel shall be admitted to entry to any port of the United States named within the certificate. But at any ports where sufficient quarantine provision has been made by State or local authorities the Secretary of the Treasury may direct vessels bound for said ports to undergo quarantine at said State or local station.

SEC. 7. That whenever it shall be shown to the satisfaction of the President that by reason of the existence of cholera or other infectious or contagious diseases in a foreign country there is serious danger of the introduction of the same into the United States, and that notwithstanding the quarantine defense this danger is so increased by the introduction of persons or property from such country that a supension of the right to introduce the same is demanded in the interest of the public health, the President shall have power to prohibit, in whole or in part, the introduction of persons and property from such countries or places as he shall designate and for such period of time as he may deem necessary.

SEC. 8. That whenever the proper authorities of a State shall surrender to the United States the use of the buildings and disinfecting apparatus at a State quarantine station, the Secretary of the Treasury shall be authorized to receive them and to pay a reasonable compensation to the State for their use, if in his opinion they are necessary to the United States.

SEC. 9. That the act entitled "An act to prevent the introduction of infectious or contagious diseases into the United States, and to establish a national board of health," approved March 3, 1879, be, and the same is hereby repealed. And the Secretary of the Treasury is directed to obtain possession of any property, furniture, books, paper, or records belonging to the United States which are not in the possession of an officer of the United States under the Treasury Department which were formerly in the use of the National Board of Health or any officer or employé thereof.

SYNOPSIS OF THE QUARANTINE LAW.

Stripped of its legal verbiage this law provides, first, that no vessel shall enter a port of the United States from a foreign port without a bill of health, signed by the United States consul, or a medical officer of the United States Government; and provides a penalty of $5,000 to be imposed on any vessel coming into American waters without such bill of health. Furthermore, the vessel shall not be admitted to entry except in accordance with other provisions of the act, and with such regulations of State and municipal authorities as may be made consistently therewith; and before being permitted to enter or discharge its cargo or land its passengers a certificate must be obtained from the health officer at the quarantine station, certifying that the rules and regulations have in all respects been complied with, both on his part and on the part of said vessel and its master. This bill of health and the quarantine certificate are to be delivered to the collector of customs.

The Secretary of the Treasury is directed to make rules and regulations to be observed by vessels at ports of departure and on the voyage, and the President may detail a medical officer of the Government to serve in the office of the consul at any foreign port for the purpose of making the necessary inspection of vessels, to see that the regulations are complied with, to sign the bills of health, and to furnish information.

Consular officers are required to be notified by the Secretary of the Treasury of the regulations made with regard to vessels, cargoes, passengers, and crew at ports of departure and on the voyage; and of the regulations also to be observed in the inspection and treatment of vessels on arrival at ports of destination in the United States. The Supervising Surgeon-General of the Marine-Hospital Service is required to examine the quarantine regulations of all State and municipal boards of health, and at ports or places which are found to have no quarantine regulations under State or municipal authority, where such regulations are, in the opinion of the Secretary of the Treasury, necessary, and at ports or places where State or municipal regulations exist, which, in the opinion of the Secretary, are not efficient, the Secretary is empowered to make additional rules, which after being promulgated, are to be enforced by the sanitary authorities of the States and municipalities if they will undertake to execute and enforce them, but if said authorities refuse or fail, the President shall adopt such measures as are necessary to their enforcement.

The law further specifies that it shall be the duty of the Supervising Surgeon-General of the Marine-Hospital Service, under the direction of the Secretary of the Treasury, to perform all the duties in respect to quarantine and quarantine regulations which are provided for by this act.

It further provides that information shall be obtained of the sanitary condition of foreign ports and places through the consular officers of the United States; that weekly reports shall be obtained of the sanitary conditions of ports and places within the United States, and for the collection of such other information affecting climatic and other conditions of the public health as may be pertinent. Weekly extracts of the consular and other sanitary reports are to be prepared and published and transmitted to the collectors of customs, State and municipal health officers, and other sanitarians. The law further permits the Secretary of the Treasury to remand an infected vessel from any port, which is not provided with proper facilities, to the nearest national or other quarantine station, and after treatment at a national quarantine station, with a certificate furnished by the United States quarantine officer, a vessel shall be admitted to entry at any port of the United States named in the certificate. But at ports where sufficient quarantine provision has been made by State or local authorities the Secretary of the Treasury may direct vessels bound to said ports to undergo quarantine at said State or local station.

An important section of this act is that which gives the President the right to prohibit in whole or in part the introduction of persons and property from such countries or places as he shall designate, and for such period of time as he may deem necessary, whenever by reason of existence of cholera or other infectious or contagious disease in a foreign country there is serious danger of the introduction of the same into the United States, despite the quarantine defenses.

Provision is also made that if a State wishes to surrender the use of its quarantine buildings and disinfecting apparatus to the United States the Secretary of the Treasury is authorized to receive them and pay a reasonable compensation to the State for their use, though no specific appropriation is made for this purpose.

OPERATIONS OF THE BUREAU UNDER THE NEW LAW.

The first step under this new law was the framing of regulations for vessels at foreign ports. To assist in this duty a board of medical officers of the Marine-Hospital Service was convened, and the regulations framed were approved by the Secretary of the Treasury February 24, and duly promulgated. These regulations prescribe the form of the bill of health; the definition of an infected port; what vessels shall be inspected before the bill of health is granted; the time and method of making the inspection, with all necessary details for the enforcement of cleanliness and perfect sanitation, including disinfection, and relating both to the vessel itself and the cargo, crew, and the passengers, both steerage and cabin. In ports infected with cholera passengers of the cabin class must produce evidence as to abode during the four days immediately preceding embarkation, and if necessary they and their baggage may be detained and the baggage subjected to such disinfection as is necessary. Steerage passengers in a cholera infected port, or from a cholera infected place, must be detained five days under medical observation, and their personal effects and baggage must be disinfected by steam. The regulations further forbid the shipment of certain articles of bedding and clothing from an infected port, also certain articles of merchandise, such as old rags, old jute, and old gunny, during the prevalence of an epidemic and for thirty days after it has been officially declared at an end. All rags at all times are to be disinfected before shipment to the United States.

Under the law these regulations are to be enforced at foreign ports, either by United States consuls or by medical officers of the United States Government when said medical officers have been detailed by the President for that purpose.

An examination of the records shows that the chief ports of embarkation of the immigrants most liable to bring contagion are as follows:

Southampton, Liverpool, Hamburg, Bremen, Rotterdam, Amsterdam, Antwerp, Havre, Marseilles, Genoa, and Naples. Accordingly a medical officer of the Marine-Hospital Service was detailed by the President to serve in the office of the consul at each of the ports named.

For securing uniformity of action among these medical officers and that the Bureau might be informed as to any special difficulties in enforcing the regulations, an inspecting medical officer was detailed to visit each of these ports for the purpose named.

To aid these medical officers and the consuls in the performance of their duty a letter of instruction was issued by the State Department, addressed particularly to United States consuls at interior places in Europe and Asia, directing that when merchandise or immigrants were about to leave or had left any section within their respective consulates where cholera prevailed they should notify by telegraph the United States consul or medical officer at the seaport selected for embarkation that the officer might be prepared to enforce the detention and disinfection required.

On May 4 a circular was issued to consuls and medical officers, requiring all baggage of immigrants coming from any port to the United States to bear a label certifying to either inspection or disinfection. Furthermore, each immigrant was to be furnished with an inspection card, giving his name, last residence, name of ship, port, and date of departure and a reference number relating to the manifest which is required by the immigration regulations, and in which is contained much information regarding each immigrant. This card was to bear the stamp of the consulate. It was also to be stamped or punched at the quarantine at the port of arrival, and again at the immigration depot, and to be held by the immigrant until he reached his point of destination. These inspection tickets and the labels upon the baggage furnished to the health officers of the interior States information which they have always desired with regard to immigrants coming within their borders. These provisions also insured care and accuracy on the part of medical officers, and particularly on the part of United States consuls at ports where immigrants do not usually embark for the United States, but which might be sought by them in the hope of avoiding the enforcement of the stringent rules at ports where medical officers were stationed.

For the vessel on the voyage certain rules were promulgated relating to inspection and sanitation, isolation of the sick, and requiring a clinical history by the ship surgeon of all cases of sickness to be delivered to the quarantine officer at the port of arrival.

At one time there seemed to be imminent danger by reason of immigration through Canada. The Canadian laws do not provide for the inspection and sanitation of ships and passengers at foreign ports, and it was feared on this account there would be a large deflection of immigration to Canada. But owing to the public-spirited policy of the Canadian Government, and the energy and efficiency of the chief quarantine officer, Dr. Montizambert, the danger of introduction of cholera through Canada was reduced to the lowest possible degree short of prohibition of immigration. All immigration into Canada in summer is via the St. Lawrence River. Forty miles below Quebec is stationed the Grosse Isle quarantine station, with perfect apparatus for scientific disinfection and accommodations for the sick and suspects. This station is reserved for infected vessels. Further up the river at Quebec, is the Louise Embankment, where is located a complete disinfecting plant; while at Point Levis, directly opposite, is located another. All immigrants, whether from infected or noninfected countries and though coming on noninfected vessels were obliged to undergo inspection at one of these two points, and all their baggage is disinfected by steam, the containers being washed with a solution of mercury. The disinfection was not one in name; but was thorough and complete. The Canadian Government very courteously assented to allow representatives of the Marine-Hospital Service, two in number, to be stationed at Quebec for the purpose of inspecting the disinfection and labeling the baggage and giving certificates to immigrants bound for the United States.

It was feared at one time that Halifax would be a point of danger during the present season. Halifax is the winter port of entry for Canada, and it was proposed to continue the landing of immigrants there through the summer, but the steamship agents were informed that the quarantine plant at Halifax was insufficient; and therefore immigrants arriving there and seeking entrance into the United States through Canada would be subjected at the border to every possible delay through inspection and disinfection by the United States officers, or perhaps be turned back into Canada. Assurances were thereupon given that no immigrants would be carried to Halifax.

Protection against the introduction of cholera through Canada, therefore, was as complete as it could be made.

With regard to the quarantine and maritime ports in the United States the new law provided that an examination should be made of all State and local regulations, and if any were found insufficient, the Secretary of the Treasury should make additional ones. In accordance with this provision, a request was sent to all quarantine authorities to transmit their rules and regulations to the Marine-Hospital Bureau. A general response followed, and after examination it was evident that to determine upon the sufficiency of all, a minimum standard must be established embodying what should be required of every quarantine station in the United States.

A uniform quarantine code for the maritime ports of the United States had long been the desire of quarantine and sanitary officers, and heretofore all attempts had been futile.

A board of officers of the Marine-Hospital Service was summoned to prepare a code. After the rules and regulations had been prepared and before adjournment of the board, a conference was called of the quarantine officers of the Atlantic and Gulf coasts representing the cities and ports of Portland, Boston, Providence, New Haven, New York, New Jersey, Philadelphia, Wilmington, Del., Baltimore, Norfolk, Wilmington, N. C., Charleston, Savannah, Florida, Mobile, New Orleans, and Texas.

This conference was called to order the 16th of March and remained in session two days, the first day being devoted to a consideration of the rules which had been prepared, and discussion thereof, with the understanding that there would be no vote. The second day the rules were again read seriatim, discussed, and voted upon. After adjournment of the conference, the board continued its labors paying special attention to the views expressed in the conference. The rules thus perfected were then promulgated by the Secretary of the Treasury, April 4, and a letter inclosing them was sent to each maritime quarantine officer, calling attention to the law and to the fact that these were minimum requirements and requesting an expression of willingness and ability to execute them. Satisfactory responses were received from all ports. These regulations relate first, to inspection of vessels, stating what vessels shall be inspected, the time of inspection, and the method of making it. They define the quarantinable diseases; and declare under what circumstances vessels shall be placed in quarantine. They relate also to the treatment in quarantine, particularly of vessels infected with cholera and yellow fever, and the time of detention and care of the passengers arriving on such vessels. Special regulations relate to rags; also to vessels suspected only of being infected with yellow fever.

Following are the regulations in full, those issued February 24, 1893, relating to foreign quarantine, measures to be observed at sea, and to the government of national quarantine stations; those issued April 4, 1893, relating to quarantine at all domestic ports:

United States Quarantine Laws and Regulations.

Treasury Department, Office of the Secretary,
February 24, 1893.

To Officers of the Treasury Department, Consular Officers, and others concerned:

Pursuant to the act of February 15, 1893, entitled "An act granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service," the quarantine laws in force are published. The following regulations have been made thereunder, and are hereby promulgated according to the terms of the act. Additional regulations for the government of domestic ports will be promulgated hereafter.

Charles Foster, *Secretary.*

REGULATIONS.

Art. I. Masters of vessels about to depart from any foreign port for a port in the United States must procure from the United States consular or medical officer at such port of departure a bill of health.

Preliminary to the issue of such document the vessel shall be inspected by the consular or medical officer. This inspection will be required of all vessels about to depart from any infected port. Said inspection will also be required of *all vessels carrying passengers* from European, Asiatic, African, South American, Central American, Mexican, and West Indian ports.

Vessels engaged in the carrying trade on the North American coast or inland waters shall be exempt from the rules regarding inspection at ports of departure so long as the said port shall remain free from infection.

The following form for bill of health is hereby prescribed:

(Form No. ——.)

United States bill of health.

Name of vessel, ——. Nationality, ——. Rig, ——.
Tonnage, gross, ——. Net, ——. Iron or wood, ——.
Number of compartments, ——. For cargo, ——. For passengers, ——.
For crew, ——.
Name of captain, ——.
Name of medical officer, ——
No. officers, ——. No. stewards, ——. No. seamen, ——.
No. petty officers, ——. No. stewardesses, ——.
No. passengers, first cabin, ——. No. firemen, ——.
No. passengers, second cabin, ——. No. waiters, ——. No. unclassified, ——.
No. passengers, steerage, ——.
Total number of persons on board, ——.

Port of departure, ——.
Sickness last voyage, No. ——. Character, ——.
Where last from, ——.
This vessel is engaged in —— trade, and plies between —— and ——.
Sanitary condition of vessel, ——.
Source and potability of water supply present voyage, ——.
Source and sanitary condition of food supply present voyage, ——.
Nature of cargo, ——.
Sanitary history and condition of cargo, ——.
Sanitary history and condition of officers and crew, ——.

Sanitary condition of passengers and their effects:
First cabin, ———.
Second cabin, ———.
Steerage, ———.
Sufficiency of ventilation, ———.
Air space, ———. (Steerage and crew) ———.
Prevailing diseases at port and in surrounding country, ———.

Number of cases (if any) and deaths (if any) from the following named diseases during the past two weeks, ———.

Disease.	Number of cases.	Number of deaths.
Yellow fever		
Asiatic cholera or cholerine		
Plague		
Smallpox		
Typhus fever		

Any conditions affecting the public health existing in the ports of departure to be here stated.

I certify that the vessel has complied with the rules and regulations made under the act of February 15, 1893, and that the vessel leaves this port bound for ———, United States of America, via ———.

Given under my hand and seal this —— day of ———, 189–.

[L. S.] ——— ———,
United States Consul.

[L. S.] ——— ———,
Surgeon, United States Marine-Hospital Service.

(FORM NO. ——.)

Certificate of disinfection.

This certificate when given shall be considered part of the bill of health.

I hereby certify that I have this day personally supervised the disinfection of the steamship ———, about to clear for the port of ———; and that the vessel and all things on board requiring it have been disinfected in accordance with the regulations of the Secretary of the Treasury.

——— ———.

Infected port. Definition.

ART. II. Within the meaning of these regulations an infected port is a port where a contagious or infectious disease has been communicated to one person, or more than one, through the medium of an infected person, personal effects, or otherwise. A port is not considered infected when a single case, or a small number of cases, has been imported and the disease has not been communicated to others.

Inspection before departure.

ART. III. The inspection shall be made within six hours immediately preceding the departure, if practicable, and will be conducted as follows:

The inspector will first muster the officers, the crew, and will cause all the passengers, both cabin and steerage, to pass before him in review, and shall by tally count them, and verify the number as stated upon the ship's crew and passenger lists. (The inspector may refuse a bill of health if there are any alien passengers suffering from contagious disease or liable to death during the voyage). The inspector will then proceed to make a careful inspection of all parts of the vessel, and in case the quarters provided for passengers or crew shall be deemed inadequate, or in an uncleanly or unhealthy condition, the bill of health shall be withheld until the inspector is satisfied that the conditions have been removed. In case disinfection is required, disinfection shall be performed under the supervision of the inspector, according to the following regulations for disinfecting vessels, and a certificate of disinfection will accompany or be attached to the bill of health.

The inspector shall also inspect the food supply, and satisfy himself of the potability of the water intended to be served on board the vessel. In certifying the sanitary condition of the cargo the inspector will decline to certify linen, personal effects, or bedding suspected of being infected. Clothing used by persons who have died of cholera, "cholerine," typhus fever, plague, yellow fever, or smallpox, should not be received on board.

Rules applicable to all vessels.

ART. IV. Vessels prior to taking on cargo and passengers for any port in the United States shall be mechanically clean in all parts. Special attention must be paid to cleanliness and dryness of hold, forecastle, and steerage. The bilges and limbers must be clean, free from deposit, and without offensive odor, and disinfection of the vessel may be required if considered necessary by the consular or medical officer.

Should any contagious or infectious disease have occurred during the previous voyage the vessel shall be disinfected by the consular or medical officer on board, in accordance with rules hereinafter to be prescribed.

The air space and ventilation must conform to the following extracts from the Revised Statutes:

SEC. 4257. Every such vessel so employed in transporting passengers between the United States and Europe, and having space according to law for more than one hundred such passengers, shall have at least two ventilators to purify each apartment occupied by such passengers; one of which shall be inserted in the after part and the other in the forward part of the apartment, and one of them shall have an exhausting cap to carry off the foul air, and the other a receiving cap to carry down the fresh air. Such ventilators shall have a capacity proportioned to the size of the apartments to be purified, namely: If the apartments will lawfully authorize the reception of two hundred such passengers the capacity of each such ventilator shall be equal to a tube of twelve inches diameter in the clear, and in proportion for larger or smaller apartments. All such ventilators shall rise at least four feet six inches above the upper deck of any such vessel, and be of the most approved form and construction. If it appears from the report to be made and approved, as provided in section forty-two hundred and seventy-two, that such vessel is equally well ventilated by any other means, such other means of ventilation shall be deemed to be a compliance with the provisions of this section.

ART. V. The disinfection of iron vessels shall be as follows:

The disinfection of iron vessels.

1. *Holds.*—After mechanical cleansing the hold to be thoroughly washed with an acid solution of bichloride of mercury 1 to 800 (mercury 1 part, hydrochloric acid 2 parts, water 800 parts), applied to all surfaces by means of a hose. If danger is apprehended from the poisonous effects of the mercury deposited on the surfaces it can be subseqently washed down with clean water.

2. *Steerage.*—The same treatment should be given the steerage as the hold, but when there are steam pipes provided for each compartment (for the prevention of fire), steam disinfection of the steerage should be practiced. The temperature in all parts of the compartments to be not less than 100° C.

3. *The forecastle or apartment for crew.*—After mechanical cleansing the application of bichloride of mercury in the manner heretofore prescribed, or steam disinfection, if facilities are provided for the same.

4. *Officers' quarters, cabin, staterooms, etc.*—All compartments thereof to receive the same treatment coming under the same conditions as heretofore specified, with the following exceptions: The decorative and metal work in cabin, saloons, etc., should, after mechanical cleansing, have an application made of 2 per cent solution of pure carbolic acid, applied by means of a brush or cloths. After remaining for two hours wipe off with dry cloths.

Rules applicable to wooden vessels.

ART. VI. 1. In all wooden vessels coming from a port or place south of latitude 23° 30′ north, or which may have been exposed to the infection of yellow fever, the mechanical cleansing must be most thorough; the bilges, limbers, frame spaces, floor spaces, etc., must be clean, free from mud, chips, sawdust, and pieces of dunnage. The hold must be dry, free from rotten wood, and the air streaks must be sufficient in number and open for ventilation.

2. Water in tanks or hard close-grained rock is recommended for ballast.

3. Earth, sand, loam, or soft porous rock should not be used for ballast where hard rock or other suitable material can be obtained.

4. The disinfection is to be accomplished by—

First. Fumigation by sulphur dioxide 10 per cent strength, forty-eight to seventy-two hours' exposure; or

Second. Flushing or washing with acid solution or bichloride mercury (1 to 800). The bilges to be first flushed with sea water, pumped out, and then treated with acid solution of bichloride of mercury in large quantity, and allowed to remain in long contact. Cabins, forecastle, and other apartments to be thoroughly washed with bichloride solution, and all clothing, bedding, curtains, etc., to be subjected to moist steam disinfection for thirty minutesat 102° to 105° C.

Cargo. ART. VII. The following rules regarding cargo should be observed:

1. Certain articles of merchandise, or personal effects and bedding coming from a district known to be infected, or as to the origin of which no positive evidence can be obtained, and which the consular or medical officer has reason to believe are infected, should be subjected to disinfection prior to shipment by the processes prescribed for articles according to their class, and secondhand upholstered furniture, feather beds, pillows, and down quilts should not be shipped.*

2. During the existence of cholera, yellow fever, smallpox, typhus fever or plague in any port or place, all rags, old jute, old gunny gathered in such port or place should not be shipped during the prevalence of such epidemic, and for thirty days after the port or place shall be officially declared free from epidemic disease.

3. New merchandise in general may be accepted for shipment without question; and articles of new merchandise, textile fabrics, and the like, which have been packed or prepared for shipment in an infected port or place with a special view to protect the same from moisture incident to the voyage, may also be accepted and be exempted from disinfection.

4. All rags and all textile fabrics used in the manufacture of paper, collected or packed in any foreign port or place, must, prior to shipment to the United States, be subjected to disinfection by one of the following methods:

First. Boiling in water for not less than thirty minutes, all rags to be unbaled for this purpose.

Second. Exposure to steam for not less than thirty minutes, the steam to be of a temperature not less than 100° C. (212° F.) nor greater than 115° C. (239° F.).

Third. Exposure for not less than six hours to sulphurous acid gas, made by burning not less than 3 pounds of roll sulphur to each 1,000 cubic feet of space.

Fourth. Exposure for not less than six hours to an atmosphere containing 3 per cent of sulphurous-acid gas liberated from its liquid state (liquid sulphur dioxide).

In methods No. 2, No. 3, and No. 4, the rags must be well scattered upon racks, or so arranged that they can from time to time be turned in such a manner that all shall be exposed to the steam or gas.

In methods No. 3 and No. 4, the exposure to gas must be conducted in a closed apartment where the rags do not at any time occupy more than 50 per cent of the total cubic space, and the exposure to date from the complete combustion of all the sulphur.

5. The following articles—feathers for bedding, human hair unmanufactured, curled hair, wools, camel's hair, goat hair, wool on skins, fur on skins, fur for hatters' use, alpaca, hides, skins without wool, hide clippings, goat and sheep skins, gathered in districts where quarantinable diseases prevail, and which have not been disinfected prior to baling or packing—must be treated by one of the following methods:

First. By the application of a 2 per cent solution of carbolic acid, all parts of the material to be saturated.

Second. By exposure to sulphur dioxide, 6 per cent strength, from eight to ten hours, all articles to be unbaled and spread on racks.

6. Articles such as gelatine, glue, glue stock, fish glue, fish bladders, fishskins, sausage casings, bladders, dried blood, rennets raw or dried, not packed in close cases, and having been in any way liable to infection in the process of preparation, gathering, or shipment, should be spread on racks and exposed to sulphur dioxide, in 6 per cent strength, from eight to ten hours.

7. The coverings of crude sugar, glucose, and coffee shipped from an infected port or place should be disinfected without breaking bulk, by exposure to sulphur dioxide, 10 per cent in strength, for a period of twelve hours.

Officers and crew. ART. VIII. 1. In an infected port, the crew should remain on board the vessel during her stay.

2. Should it become necessary in an infected port to ship new men to complete the crew, such men should be examined by the consular or medical officer, and required to prove to his satisfaction that they have not within ten days previous been exposed to any quarantinable disease. In case of the prevalence of smallpox, all members of the crew shall be vaccinated, unless they can show to the consular or medical officer a satisfactory scar of recent vaccination. The dunnage and personal wear of the crew should be disinfected by steam† at 102° C. for thirty minutes prior to each voyage.

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* Food products, such as macaroni, vermicelli, vegetables in their natural state, fruit, fresh or dried, unsalted meats or meat products, dressed poultry, butter, milk, cheese, butterine, egg albumen, and the like, coming from a cholera-infected locality, should not be shipped. No method is known by which these articles can be disinfected.

† Boots and shoes, rubber goods, etc., which are injured by steam should be disinfected by 2 per cent carbolic acid solution, the articles to be fully submerged.

3. In an infected port, bedding, mattresses, bed sacks, and blankets used by the crew should be disinfected by exposure to steam at 102° C. for thirty minutes.

Passengers.

ART. IX. Passengers for purposes of these regulations are divided into two classes—cabin and steerage.

1. Prior to sailing from ports infected with cholera, each passenger of the cabin class should produce satisfactory evidence as to his exact place of abode during the four days immediately preceding embarkation, and if it appears that he or his baggage has been exposed to contagion, said passenger should be detained such length of time as shall be deemed necessary by the inspecting officer, and the baggage should be disinfected.

When practicable passengers should not ship from infected ports; but in cases where it is impracticable to do otherwise, the hand baggage of steerage passengers will be limited to necessary articles of apparel and bedding, and must be disinfected by steam at 102° C. for thirty minutes. Boots, shoes, hats, caps, gloves, and articles of leather which are injured by heat should be disinfected by submerging in a 2 per cent solution of carbolic acid, or in a bichloride of mercury solution (1 to 800).

2. Steerage passengers, namely, those occupying apartments other than first or second cabin, from any port or place where cholera may be prevailing should be detained five days under medical observation in specially designated barracks or houses set aside for their exclusive use. Pure water and wholesome food of a character satisfactory to the medical officer should be supplied to persons so detained. Steerage passengers should be bathed immediately upon the commencement of the four days' observation, and provided with disinfected clothing. The clothing removed should be disinfected by exposure to steam at 102° C. for thirty minutes.

3. Should cholera break out in the barracks or houses in which the passengers are undergoing the five days' observation, no passenger from said houses or barracks should embark until seven days or longer after the conclusion of the last case, and not until such measures have been taken as insures freedom from contagion of the remainder.

The rules prescribed for the disinfection of the baggage and personal effects of passengers and crew coming from cholera-infected ports should also be observed with regard to passengers and crew coming from ports and places where plague, yellow fever, typhus fever, or smallpox are prevailing in an epidemic form.

Passengers and crews, merchandise, and baggage prior to shipment at a noninfected port, but coming from an infected locality, should be subject to the same restrictions as are imposed in an infected port.

Rules to be observed on the voyage.

ART. X. The master of the vessel should cause the following rules (substantially as recommended by the International Sanitary Conference of Rome, 1885) to be observed during the voyage:

R. S. 4263.

The soiled body linen of passengers and crew suffering from infectious diseases should be washed at once, after immersion in boiling water or in a disinfecting solution.

The water closets should be washed and disinfected twice a day.

Rigorous cleanliness and active ventilation should be maintained during the voyage on board all ships, but especially those from infected ports.

1. An inspection of the vessel, including the steerage, should be made by the ship's physician once each day.

2. Should cholera (or cholerine), yellow fever, typhus fever, smallpox, or plague appear on board a ship while at sea, those who first show symptoms of these diseases will be immediately sent to the hospital; the ship's physician will then immediately notify the captain, and all of the effects liable to convey infection, which have been in use, will be destroyed or disinfected.

3. The compartments occupied by those who fall sick should be disinfected, and, as far as possible, the compartments thus disinfected should remain freely exposed to the air and unoccupied, and should not be occupied by any passengers in health for the remainder of the voyage. If the vessel is an iron steamer and the compartments suitable, the entire compartment should be disinfected by steam, when it may again be occupied. The articles liable to convey infection remaining in the compartments should be left undisturbed. After disinfection of the compartments the bedding and clothing can be removed and dried.

4. Patients in hospitals should be isolated.

5. The hospital should be disinfected in the manner hereinbefore prescribed as soon as it becomes vacant.

6. The dead should be enveloped in a sheet saturated with one of the strong disinfecting solutions, without previous washing of the body, and at once placed in a coffin hermetically sealed or buried at sea.

7. A clinical record should be kept by the ship surgeon of all cases of sickness in hospital, and delivered to the quarantine officer at the port of arrival on demand.

Under the foregoing paragraphs, disinfecting solutions are limited to the following—Strong: Acid solution of bichloride of mercury (1 to 500). A 1 to 20 solution of pure carbolic acid. Weak: Acid solution of bichloride of mercury, 1 to 1,000. Carbolic acid, 1 to 40.

RULES FOR THE GOVERNMENT OF NATIONAL QUARANTINES.

ART. XI. At United States ports where there is neither national nor local quarantine, vessels will not be admitted to entry until the collector of customs shall be satisfied that the vessel may be admitted without danger to the public health; and in case the said vessel shall be found to have quarantinable disease on board, or to have had such disease on board during the voyage, the collector of customs at such port may remand such vessel to the nearest national or other quarantine station where proper accommodations and appliances are provided, there to undergo purification and disinfection according to the regulations governing national quarantines.

1. Quarantine will be maintained at South Atlantic and Gulf quarantine stations from May 1 to November 1, and at Dry Tortugas from April 15 to November 15.

Boarding and inspection stations will be maintained throughout the year.

2. Quarantinable diseases are cholera, yellow fever, smallpox, plague, and typhus fever.

3. Vessels shall be inspected, without avoidable delay, between sunrise and sunset.

4. The quarantine officer shall at once demand from the master the prescribed bill of health. Should the vessel have no bill of health, she shall be detained and the fact reported at once to the collector of customs.

5. In making an inspection of a vessel, the bill of health, ship's log, and crew and passenger lists and manifests shall be examined, together with clinical record of all cases treated in hospital during the voyage. The crew and passengers shall be mustered, according to the lists, and any discrepancies found investigated.

6. Vessels arriving at any national quarantine station having quarantinable diseases on board, or having had cases during the voyage, or at port of departure, shall be placed in quarantine. After certificate of discharge shall have been given by the United States quarantine officer at said station, the vessel shall be admitted to entry under section 6 of act of February 15, 1893.

7. Pilots bringing infected vessels will be detained in quarantine a sufficient time to cover the period of incubation of the disease for which the vessel is quarantined, or if, in the opinion of the quarantine officer, such pilots have been exposed to infection. The dunnage of pilots shall be disinfected when necessary.

8. Prior to the discharge of ballast, or removal of suspected dunnage, a preliminary fumigation or disinfection may be required in the discretion of the quarantine officer, which shall be done by the quarantine employés only.

9. In cholera-infected vessels the water supply must be changed without delay, and the casks disinfected by steam or a 10 per cent solution of permanganate of potash, and thoroughly washed with pure water.

10. All persons on vessels detained on account of smallpox who have been exposed to the contagion will be immediately vaccinated.

11. After mechanical cleaning, discharge of ballast, or shifting of cargo, the vessel shall be disinfected by sulphur dioxide, not less than 10 per cent volume, twenty-four to forty-eight hours' exposure, followed by a washing with acid solution of bichloride of mercury (1 to 800).

12. Discharge of ballast and disinfection of the hold of a vessel will generally be unnecessary when the vessel is detained on account of smallpox.

13. In a wooden vessel fumigation should precede the washing with bichloride; apartments above decks to be closed twenty-four hours, and below decks from forty-eight to seventy-two (the time necessary to allow the sulphur dioxide to penetrate all dead spaces and rotten wood).

14. Objects of polished metal should be removed before fumigation of any compartment.

15. Mattresses, bedding, clothing, dunnage, and textile fabrics* should be exposed

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*Articles of rubber, leather, skins, celluloid, hats, and gutta-percha buttons, etc., are destroyed by this process, and should be disinfected by immersion in bichloride solution (1 to 800) or 2 per cent solution of carbolic acid, the articles to be wholly submerged.

to steam at a temperature of 102° C. for a period of thirty minutes after such temperature is reached.

16. Articles which can not be disinfected will be destroyed.

17. The detention of vessels for cholera, yellow fever, smallpox, and typhus fever shall cover the period of incubation of the disease, the time of detention to commence from the date of last exposure. Yellow fever, not less than five days; typhus fever, not less than twenty days; smallpox, except in cases of successful vaccination, not less than fourteen days; cholera, not less than five days.

18. Steam vessels from suspected or infected ports where yellow fever prevails may be allowed to enter any ports north of Baltimore, Md., after five days from date of departure from such port, without disinfection or detention, unless in bad sanitary condition, or with bad sanitary history.* In either case they will be detained in quarantine five days after disinfection. This regulation to apply to the North Atlantic coast only.

19. A vessel calling for orders, supplies, or coal only may be allowed to proceed, unless there is a quarantinable disease on board at the time, or such disease has been on board at ports en route, or at ports of departure, and when she is believed to be infected, in which case coal or supplies by barge can be towed to her, and she can take the coal or supplies from the barge with her own crew; but the local health officer at the port shall allow no person or dunnage from such vessel to go ashore.

20. Passengers on ships detained at quarantine shall be removed therefrom as soon after arrival as possible.

Passengers and crews detained at any national quarantine will be subject to rules and regulations promulgated from time to time by the Supervising Surgeon-General for their government.

REGULATIONS GOVERNING SANITARY REPORTS.

ART. XII. United States consular officers in foreign ports are required by law (and State and municipal health officers and registrars of vital statistics are requested) to furnish this Department with weekly reports of the sanitary condition of the ports or places where they may be respectively stationed, in order that the Secretary of the Treasury may comply with the law requiring the publication of weeky abstracts of the aforesaid reports. Public associations and private persons also are informed that their communications in regard to matters of public health will receive such attention as the subject-matter seems to warrant. Consular reports will be made to the Secretary of the Treasury in the manner prescribed in the following paragraphs of the Consular Regulations, subject to the modifications of the act of February 15, 1893:

"Par. 333. Section 2 of an act entitled 'An act to prevent the introduction of contagious or infectious diseases into the United States, approved April 29, 1878,' provides:

"'That whenever any infectious or contagious disease shall appear in any foreign port or country, and whenever any vessel shall leave any passengers coming from any infected foreign port, or having on board goods or passengers coming from any place or district infected with cholera or yellow fever, shall leave any foreign port, bound for any port in the United States, the consular officer or other representative of the United States at or nearest such foreign port shall immediately give information thereof to the Supervising Surgeon-General of the Marine-Hospital Service, and shall report to him the name, the date of departure, and the port of destination in the United States, and the consular officers of the United States shall make weekly reports to him of the sanitary condition of the ports at which they are respectively stationed.'

"334. The object of the foregoing section of the law is to secure timely advice of the outbreak of cholera and yellow fever, and of the probable transportation of the poisons of these preventable diseases in vessels bound for the United States, and consular officers for the United States are directed to put themselves into communication with the health authorities of their respective stations, and from the information obtained from such authorities, or from other reliable sources where no regularly constituted health authorities exist, to prepare and transmit by the mails to the Department of State, for the information of the Surgeon-General of the Marine-Hospital Service, on forms prescribed by the Department, weekly reports of the appearance, progress, or termination of cholera, yellow fever, smallpox, plague or typhus fever occurring in their respective localities, and are further instructed to include in said reports information in relation to the prevalence of other preventable diseases, as diphtheria, enteric and scarlet fevers, etc., the prevailing disease or diseases in port, if any, and, when practicable, the annual death rate per one thousand of the population, as shown by the official record of deaths for the week reported. Special interest should be taken in the healthfulness of vessels, reporting those arriving from or departing to the United States in a bad sanitary condition; also reporting the facts of any serious sickness or unhealthiness of seamen in port, or of crews arriving from or departing to the United States.

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* The following circumstances are among those which shall constitute bad sanitary history for a vessel within the meaning of this paragraph: Sailing from a badly infected port; lying in a badly infected locality of any infected port; lying long in a harbor and having much communication with shore of an infected port; shipping men from shore in an infected port. Such men should not be allowed to leave the vessel save under the same conditions as passengers, or even more rigorous ones, as their dunnage may be exceedingly dangerous. If shipped from any other vessel without going ashore, save to consul's office, the condition of the vessel which they left is to be considered only.

"335. In the event of the outbreak of Asiatic cholera, yellow fever, or Asiatic plague, or other contagious disease in epidemic form, the Department must immediately be advised by cable or telegraph of such outbreak, using such abbreviation as the Department may from time to time direct."

The following cipher and abbreviations should be used:

"Cholera," meaning cholera has appeared.

"Yellow," meaning yellow fever has appeared.

The name of a country, meaning that the disease has made its appearance at several places in the country named.

The name of a vessel, meaning that the vessel named has departed from the place whence the dispatch is sent, bound for a port in the United States.

"Poison," meaning that the vessel referred to, though leaving a then healthy port, has on board passengers or goods (baggage) coming from a district infected with cholera or yellow fever.

When cholera or yellow fever has appeared at several places in a country, name the country only, after the word "cholera" or "yellow," as the case may be. If it has appeared at the place only from which the dispatch is sent, do not repeat the name of that place in the body of the dispatch, but if at any other particular place, name it.

In a dispatch announcing the departure of a vessel to a port in the United States, the port of departure will be understood to be the place from which the dispatch is sent; hence the name of the port of departure need not be repeated. In the body of a dispatch the name of the vessel should be given first; second, the name of the country, when applicable; third, the day of departure, omitting the day of the month and of the year, as they will be understood without saying; fourth, the name of the port of destination (the importance of observing this order will appear obvious when it is understood that many vessels bear the name of ports in the United States); fifth, the name of the disease, "cholera" or "yellow," as the case may be, should be given, provided the Department has not been already advised of the outbreak of the disease. When advice has once been given of the appearance of cholera or yellow fever at a certain port, the name of the disease need not be repeated in dispatches announcing the subsequent departure of vessels from that port.

When the name of a vessel is given without stating whether it is a steamer or sailing vessel, it will be understood to be a steamer; if the vessel is a sailing vessel, its proper designation should be prefixed. The sender of the dispatch should sign his last name only.

ART. XIII. The inspector will preserve in his office a record of each inspection so made. A copy of these reports will be forwarded weekly to the Supervising Surgeon-General.

In addition to the duties already prescribed, the medical officer when detailed under the act shall furnish such reports as he may be directed to furnish from time to time by the Supervising Surgeon-General.

LAWS AND REGULATIONS FOR THE MARITIME QUARANTINES OF THE UNITED STATES.

TREASURY DEPARTMENT, OFFICE OF THE SECRETARY,
April 4, 1893.

To Officers of the Treasury Department, Maritime Quarantine Officers in the United States, Consular Officers, and others concerned:

Pursuant to act of February 15, 1893, entitled "An act granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service," the quarantine laws in force are published, and the following regulations made thereunder for the government of domestic ports are hereby promulgated.

J. G. CARLISLE, *Secretary.*

PREAMBLE.

1. At or convenient to the principal ports of the United States, quarantine stations should be equipped with all appliances for the inspection and treatment of vessels, their passengers, crews, and cargoes.

2. At all other ports where such provisions have not been made inspection stations should be maintained.

3. An inspection service should be maintained at every port throughout the year.

4. At a fully equipped quarantine station there should be adequate provision for boarding and inspection, apparatus for mechanical cleaning of vessels, apparatus for steam disinfection, apparatus for disinfection with sulphur dioxide, apparatus for disinfecting solutions, hospitals for contagious and doubtful cases, detention barracks for suspects, bathing facilities, crematory, and sufficient supply of good water.

5. The personnel of quarantine stations in the yellow-fever zone and on fruiters for southern ports should be immune against yellow fever.

6. At quarantine stations all articles liable to convey infection should be handled only by the employés of said station unless the services of the crew are indispensable.

7. Vessels having been treated at national quarantine stations that are located a considerable distance from the ports of entry of said vessels may be inspected by the local quarantine officer, and if for any sanitary reason it is considered inadvisable to admit the vessel he should report the facts immediately to the Supervising Surgeon-General M. H. S., detaining the vessel pending his action.

8. The following regulations are the required minimum standard and do not prevent the addition of such other rules as, for special reasons, may be legally made by State or local authorities.

REGULATIONS FOR MARITIME QUARANTINE AT UNITED STATES PORTS.

ARTICLE I.—INSPECTION.

1. Vessels arriving at ports of the United States under the following conditions shall be inspected by a quarantine officer prior to entry.*

A. Any vessel with sickness on board.

B. All vessels from foreign ports.

Exceptions.—Vessels not carrying passengers on inland waters of the United States. Vessels from the Pacific and Atlantic coasts of British America, provided they do not carry persons or effects of persons nonresident in America for the ninety days next preceding arrival, and provided always that the port of departure be free from quarantinable disease. Vessels from other foreign ports via these excepted ports shall be inspected.

C. Vessels from foreign ports having entered a port of the United States without complete discharge of passengers and cargo. Such vessels shall be subject to a second inspection before entering any other port. Vessels from ports suspected of infection with yellow fever, having entered a port north of the southern boundary of Maryland without disinfection, shall be subjected to a second inspection before entering any port south of said latitude during the quarantine season of such port.

2. The inspection of vessels required by these regulations shall be made between sunrise and sunset, except in case of vessels in distress.

3. The quarantine officer shall at once demand from the master the prescribed bill of health. Should the vessel have no bill of health, the fact shall be reported at once to the collector of customs.

4. In making the inspection of a vessel, the bill of health and crew and passengers' lists and manifests, and, when necessary, the ship's log, shall be examined, together with the clinical record of all cases treated in hospital during the voyage. The crew and passengers shall be mustered and examined and compared with the lists and manifests and any discrepancies investigated.

ARTICLE II.—QUARANTINE.

1. For the purpose of these regulations the quarantinable diseases are cholera (cholerine), yellow fever, smallpox, plague, and typhus fever.

2. Vessels arriving under the following conditions shall be placed in quarantine:

A. With quarantinable disease on board.

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*At ports at which there is no quarantine officer any physician authorized by the surveyor or collector of customs for the purpose of making inspection shall be considered as a quarantine officer *pro tem.*

B. Having had such on board during the voyage or within thirty days next preceding arrival; or, if arriving in the quarantine season, having had yellow fever on board after March 1 of the current year, unless satisfactorily disinfected thereafter.

C. Vessels having had cholera on board within six months, unless satisfactorily disinfected thereafter.

D. From ports *infected* with yellow fever, cholera, plague, or where typhus fever prevails in epidemic form, coming directly or via another foreign port, or via United States ports, unless disinfected as prescribed by the United States quarantine regulations; also vessels from noninfected ports but bringing persons or cargo from places infected with cholera, yellow fever, plague, or where typhus fever prevails in epidemic form, except as subsequently noted.

E. Vessels from ports in the West Indies on the east coast of America between 23° 30′ N. and 32° S. latitude, and from the west coast of Africa between 23° 30′ N. and 10° S. latitude, except such as are known and declared by the Supervising Surgeon-General to be free from infection, arriving at any port in the United States.

Exceptions.—The following exceptions may be made to Rules D and E with regard to vessels from ports quarantined against on account of yellow fever:

(1) Vessels arriving during certain seasons of the year, to wit, from November 1 to May 1, may be admitted to entry.

(2) Vessels bound for ports in the United States north of the southern boundary of Maryland, with good sanitary condition and history, having had no sickness on board at ports of departure en route or on arrival, provided they have been five days from last infected or suspected port, may be allowed entry at port of destination. But if said vessels carry passengers destined for places south of this latitude, the baggage of said passengers shall be disinfected.

(3) A vessel calling for orders, supplies, or coaling only may be allowed to proceed, unless there is a quarantinable disease on board at the time, or such disease has been on board at ports en route or at ports of departure, and when she is believed to be infected, in which case coal or supplies by barge can be towed to her, and she can take the coal or supplies from the barge with her own crew; but the local health officer at the port shall allow no person or dunnage from such vessel to go ashore.

(4) Vessels not carrying passengers nor having carried passengers from one port to another and having held no communication with any other vessel engaged in the fruit trade, carrying only fruit, unwrapped rubber, or specie, from ports known to be healthy, and so declared by the Supervising Surgeon-General M. H. S., may be admitted to entry without detention, provided they have complied in every respect with the rules and regulations made by the Secretary of the Treasury for such ports.

3. Persons who arrive on vessels coming from any port or place where smallpox is prevailing in epidemic form or having had smallpox on board must be vaccinated or show satisfactory evidence of recent vaccination or of having had smallpox, or be detained in quarantine not less than fourteen days, and all effects and compartments liable to convey infection disinfected.

4. All passengers occupying apartments other than first and second cabin shall be vaccinated prior to entry, unless they can show that they have had smallpox, or have been recently successfully vaccinated, or be detained in quarantine fourteen days.

ARTICLE III.—TREATMENT IN QUARANTINE OF CHOLERA-INFECTED VESSELS.

1.* Remove all persons from the vessel (if cholera has occurred on board) save those necessary to care for her. Place the sick in hospital and carefully isolate those specially suspected. Segregate the remainder in small groups wherever it is practicable. Those believed to be especially capable of conveying infection must not enter the barracks until they are bathed and furnished with sterile clothing; nor should any material capable of conveying infection be taken into the barracks, especially food.

2. At once proceed with the disinfection of the hand baggage, and, where practicable, bathe those detained.

3. If cholera has occurred in the steerage, all occupants thereof must be bathed.

4. All baggage and effects accompanying steerage passengers and any baggage or effects that may have been exposed to infection must be disinfected.

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*It is required only if cholera has occurred on board.

5. Such articles of cargo as are liable to convey infection must be disinfected.

6. All living apartments and furniture and such other portions of a vessel as are liable to convey infection shall be disinfected.

7. On cholera-infected vessels the water supply must be changed without delay, the casks or tanks disinfected by steam or 10 per cent solution of potassium permanganate, and after thorough rinsing refilled from a source of undoubted purity, or the water supplied be recently boiled.

8. Nothing shall be thrown overboard from a cholera-infected vessel, not even deck sweepings. Such things shall be burned in the furnace or in a place specially designated, but not in the galley.

9. No communication shall be allowed between any vessel in quarantine and the shore or any other vessel, except through the quarantine officer, or by his order, through his agents.

10. The disinfection of iron vessels shall be as follows:

(*a*) *Holds.*—After mechanical cleansing, the hold to be thoroughly washed with an acid solution of bichloride of mercury 1 to 800 (mercury 1 part, hydrochloric acid 2 parts, water 800 parts), applied to all surfaces by means of a hose. If danger is apprehended from the poisonous effects of the mercury deposited on the surfaces they can be subsequently washed down with clean water.

(*b*) *Steerage.*—The same treatment should be given the steerage as the hold, but when there are steam pipes provided for each compartment (for the prevention of fire), steam disinfection of the steerage should be practiced. The temperature in all parts of the compartments to be not less than 100° C.

(*c*) *The forecastle or apartment for crew.*—After mechanical cleansing, the application of bichloride of mercury in the manner heretofore prescribed, or steam disinfection, if facilities are provided for the same.

(*d*) *Officers' quarters, cabin, staterooms, etc.*—All compartments thereof to receive the same treatment coming under the same conditions as heretofore specified, with the following exceptions: The decorative and metal work in cabin, saloons, etc., should, after mechanical cleansing, have an application made of 3 per cent solution of pure carbolic acid, applied by means of a brush or cloths. After remaining for two hours, wipe off with dry cloths.

(*e*) Disinfection by twenty-four hours' exposure to 10 per cent volume of sulphur dioxide, after mechanical cleansing, may be substituted in each of the above *a*, *b*, *c*, and *d*.

11. Leather cushions shall be wetted with 3 per cent solution of pure carbolic acid, and upholstered goods may be treated in the same way, or by steam.

12. The water ballast of a vessel coming from a cholera-infected port should be discharged at sea, or if discharged in fresh or brackish water, must be previously disinfected; the tanks to be refilled with sea water or disinfected.

13. For a wooden vessel the treatment is as above, except that fumigation of the hold and living apartments with sulphur dioxide, 10 per cent volume, must precede the other treatment for the hold forty-eight to seventy-two hours; for the living apartments, twelve hours.

14. All solid ballast to be discharged or disinfected previous to disinfection of hold. All ballast discharged ashore or in fresh water to be disinfected. Only clear, hard, close-grained rock may be permitted to remain on board after disinfection by dipping (immersing) in an acid solution, 1 to 800, of bichloride of mercury. Ballast removed from vessels must not be taken from the quarantine station.

ARTICLE IV.—DETENTION OF PASSENGERS ON ACCOUNT OF CHOLERA.

1. The people detained shall be inspected by the physician twice daily and be under constant surveillance, and no intercourse will be allowed between different groups while in quarantine.

2. The water and food supply will be strictly guarded to prevent contamination.

3. In any group in which cholera appears the sick will be immediately isolated in hospital, and the remaining persons in the group shall again undergo disinfection and be detained not less than five days thereafter.

4. After five days from last exposure to infection, any group among which no choleraic disease has developed may be released from quarantine after a final disinfection of clothing.

5. Food of a simple character, sufficient in quantity, thoroughly cooked, shall be issued to those detained in quarantine. No fruit shall be permitted.

6. Cleanliness and disinfection of quarters and cleanliness of person shall be

enjoined and enforced daily. Disinfectants shall be used where there is any possibility of infection.

7. Water-closets, urinals, privies, or troughs shall be provided, and means used for their disinfection before their contents are discharged into pits of unslacked lime.

8. The body of no person dead of cholera shall be allowed to pass through quarantine. The body should be cremated, if practicable. If not, it should be wrapped without preliminary washing in a sheet saturated with a solution of bichloride of mercury, 1 to 500, and buried, surrounded by caustic lime.

ARTICLE V.—DISINFECTION OF CARGO OF CHOLERA-INFECTED VESSELS.

1. Articles of cargo requiring it will be disinfected by—

(*a*) Steam heat of 100° C. for not less than thirty minutes after such temperature is reached, or by boiling the same length of time.

(*b*) Wetting thoroughly with bichloride solution, 1 to 800, or with 3 per cent solution of pure carbolic acid.

(*c*) Exposure to sulphur dioxide, volume of 10 per cent, for not less than twelve hours.

2. Clothing and bedding will be disinfected by—

(*a*) Exposure to steam from 100° to 102° C. for thirty minutes after such temperature is reached, or by boiling for thirty minutes.

(*b*) Immersing in bichloride solution, 1 to 800, or solution of pure carbolic acid, 3 per cent, until thoroughly wetted, and allowed to dry before washing.

This last process (*b*) to be used only for articles that will be injured by steam or boiling.

ARTICLE VI.—RAGS.

1. All rags and old textile fabrics used in the manufacture of paper, and all old gunny, old jute, etc., fit only for remanufacture, gathered, collected, packed, or shipped from or via any port or place where cholera (cholerine), yellow fever, or plague exists, or where smallpox or typhus fever prevails in epidemic form, and for thirty days after the port or place shall be officially declared free from such diseases or epidemic, shall be denied entry into any port of the United States.

2. No rags or old textile fabrics used in the manufacture of paper or articles enumerated in 1, Article VI, which have not been disinfected in accordance with Article VII, paragraph 4, of the United States Laws and Regulations, February 24, 1893, shall be admitted into the United States.

ARTICLE VII.—TREATMENT OF VESSELS INFECTED OR SUSPECTED OF BEING INFECTED WITH YELLOW FEVER.

1. Where practicable, at once remove the sick to hospital and remove and isolate all persons not required for the care of the vessel.

2. If the hold is deemed infected, there shall be a preliminary disinfection of the same with sulphur dioxide and bichloride solution.

3. All ballast except close-grained hard rock must be discharged. This may be retained aboard if disinfected by dipping (immersion) in an acid solution of bichloride of mercury, 1 to 800.

4. The bilge should be cleansed with sea water, if possible, before disinfection, and the hold rendered mechanically clean.

5. After discharge or disinfection of ballast the vessel should be disinfected as provided in Article III, paragraphs *a*, *b*, *c*, and *d* of these regulations, treating living rooms in addition with fumigation with sulphur dioxide, 4 per cent, twenty-four hours' exposure.

6. All baggage and clothing, bedding, hangings, etc., shall be disinfected by steam at 100° to 102° C. for thirty minutes after such temperature is reached, or boiling thirty minutes Articles liable to injury by steam or boiling should be disinfected by immersion in solution of bichloride of mercury, 1 to 800, or solution of pure carbolic acid, 3 per cent, all articles to be wholly submerged and thoroughly wetted.

7. Cargo shall be disinfected *in situ*, if possible, by thorough aëration, followed by fumigation with sulphur dioxide, 10 per cent strength, forty-eight hours' exposure. Where it is impossible to disinfect *in situ*, the cargo should be removed and disinfected.

8. The personnel of the vessel shall be detained *five* days from completion of the disinfection, *or three days if all packed effects of passengers, crew, and vessel are handled exclusively by quarantine employés.*[*]

9. Persons arriving on a vessel upon which yellow fever has occurred at port of departure, on the voyage, or on arrival, shall be detained not less than five days from the completion of disinfection.

10. If disinfected under the supervision of an accredited medical officer of the United States at the port of departure, the period of quarantine may date from completion of such disinfection, and shall not be less than five days.

11. Passenger traffic may be allowed during the quarantine season from Havana to any southern port of the United States under the following conditions:

(*a*) Vessels to be of iron and clean immediately prior to taking on passengers.

(*b*) The vessel must lie at moorings in the open harbor at Havana, and not approach the wharves, nor must the crew be allowed ashore.

(*c*) All passengers and crew must be immune to yellow fever.[†]

(*d*) All baggage and articles liable to convey infection shall be disinfected as required by United States laws and regulations at port of departure or port of arrival in the United States. No bedding or household effects to be allowed to enter.

RULES FOR THE GOVERNMENT OF NATIONAL QUARANTINES.

ART. VIII. At United States ports where there is neither national nor local quarantine, vessels will not be admitted to entry until the collector of customs shall be satisfied that the vessel may be admitted without danger to the public health; and in case the said vessel shall be found to have quarantinable disease on board, or to have had such disease on board during the voyage, the collector of customs at such port may remand such vessel to the nearest national or other quarantine station where proper accommodations and appliances are provided, there to undergo purification and disinfection according to the regulations governing national quarantines.

1. Quarantine will be maintained at South Atlantic and Gulf quarantine stations from May 1 to November 1, and at Dry Tortugas from April 15 to November 15. Boarding and inspection stations will be maintained throughout the year.

2. Quarantinable diseases are cholera, yellow fever, smallpox, plague, and typhus fever.

3. Vessels shall be inspected, without avoidable delay, between sunrise and sunset.

4. The quarantine officer shall at once demand from the master the prescribed bill of health. Should the vessel have no bill of health she shall be detained and the fact reported at once to the collector of customs.

5. In making an inspection of a vessel the bill of health, ship's log, and crew and passenger lists and manifests shall be examined, together with clinical record of all cases treated in hospital during the voyage. The crew and passengers shall be mustered, according to the lists, and any discrepancies found investigated.

6. Vessels arriving at any national quarantine station having quarantinable diseases on board, or having had cases during the voyage, or at port of departure, shall be placed in quarantine. After certificate of discharge shall have been given by the United States quarantine officer at said station the vessel shall be admitted to entry under section 6 of act of February 15, 1893.

7. Pilots bringing infected vessels will be detained in quarantine a sufficient time to cover the period of incubation of the disease for which the vessel is quarantined or if, in the opinion of the quarantine officer, such pilots have been exposed to infection. The dunnage of pilots shall be disinfected when necessary.

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[*] Although it is known that the period of incubation of yellow fever may be over three and in some cases more than five days, the statistics, so far as can be obtained, of the *quarantines* of the United States demonstrate that the three days' detention after completion of disinfection is reasonably safe with regard to *suspected* vessels. To this practice is the added requirement that packed effects of passengers, crew, and vessel are to be handled exclusively by quarantine employés. While three days is the minimum required under the above conditions, it is recommended that five days' detention be imposed, as provided for at the national quarantine stations.

[†] The evidence of immunity which may be accepted by the sanitary inspector is:

First. Proof of continued residence in an enidemic focus of yellow fever for ten years.

Second. Proof of previous attack of yellow fever.

8. Prior to the discharge of ballast, or removal of suspected dunnage, a preliminary fumigation or disinfection may be required in the discretion of the quarantine officer, which shall be done by the quarantine employés only.

9. In cholera-infected vessels the water supply must be changed without delay, and the casks disinfected by steam or a 10 per cent solution of permanganate of potash, and thoroughly washed with pure water.

10. All persons on vessels detained on account of smallpox who have been exposed to the contagion will be immediately vaccinated.

11. After mechanical cleaning, discharge of ballast, or shifting of cargo, the vessel shall be disinfected by sulphur dioxide, not less than 10 per cent volume, twenty-four to forty-eight hours' exposure, followed by a washing with acid solution of bichloride of mercury (1 to 800).

12. Discharge of ballast and disinfection of the hold of a vessel will generally be unnecessary when the vessel is detained on account of smallpox.

13. In a wooden vessel fumigation should precede the washing with bichloride; apartments above decks to be closed twenty-four hours, and below decks from forty-eight to seventy-two (the time necessary to allow the sulphur dioxide to penetrate all dead spaces and rotten wood).

14. Objects of polished metal should be removed before fumigation of any compartment.

15. Mattresses, bedding, clothing, dunnage, and textile fabrics* should be exposed to steam at a temperature of 102° C. for a period of thirty minutes after such temperature is reached.

16. Articles which can not be disinfected will be destroyed.

17. The detention of vessels for cholera, yellow fever, smallpox, and typhus fever shall cover the period of incubation of the disease, the time of detention to commence from the date of last exposure. Yellow fever, not less than five days; typhus fever, not less than twenty days; smallpox, except in cases of successful vaccination, not less than fourteen days; cholera, not less than five days.

18. Steam vessels from suspected or infected ports where yellow fever prevails may be allowed to enter at the port of Baltimore and ports north of Baltimore, Md., after five days from date of departure from such port, without disinfection or detention, unless in bad sanitary condition, or with bad sanitary history.† In either case they will be detained in quarantine five days after disinfection. This regulation to apply to the North Atlantic coast only.

19. A vessel calling for orders, supplies, or coal only may be allowed to proceed, unless there is a quarantinable disease on board at the time, or such disease has been on board at ports en route, or at ports of departure, and when she is believed to be infected, in which case coal or supplies by barge can be towed to her, and she can take the coal or supplies from the barge with her own crew; but the local health officer at the port shall allow no person or dunnage from such vessel to go ashore.

20. Passengers on ships detained at quarantine shall be removed therefrom as soon after arrival as possible.

Passengers and crews detained at any national quarantine will be subject to rules and regulations promulgated from time to time by the Supervising Surgeon-General for their government.

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*Articles of rubber, leather, skins, celluloid, hats, and gutta-percha buttons, etc., are destroyed by this process, and should be disinfected by immersion in bichloride solution (1 to 800) or 2 per cent solution of carbolic acid, the articles to be wholly submerged.

†The following circumstances are among those which shall constitute bad sanitary history for a vessel within the meaning of this paragraph: Sailing from a badly infected port; lying in a badly infected locality of any infected port; lying long in a harbor and having much communication with shore of an infected port; shipping men from shore in an infected port. Such men should not be allowed to leave the vessel save under the same conditions as passengers, or even more rigorous ones, as their dunnage may be exceedingly dangerous. If shipped from any other vessel without going ashore, save to consul's office, the condition of the vessel which they left is to be considered only.

ADDITIONAL PRECAUTIONARY MEASURES TAKEN AGAINST THE INTRODUCTION OF CHOLERA.

[Circular.]

DISINFECTION OF EFFECTS AND BAGGAGE OF IMMIGRANTS AND OTHERS.

TREASURY DEPARTMENT, OFFICE OF THE SECRETARY,
Washington, D. C., January 21, 1893.

To collectors of customs, medical officers of the United States Marine-Hospital Service, immigation officers and others:

The Department finds it necessary to call your attention to the provisions of Circulars No. 141, of August 17, 1892, and No. 147, of August 24, 1892, in regard to the disinfection of the personal effects and baggage of immigrants prior to embarkation. The circular of August 17 provides for such disinfection of baggage coming from Russia or from any cholera-infected districts, while the circular of August 24 extends these provisions to include the baggage and personal effects of immigrants from all European and Asiatic ports.

In case no consular certificate of such disinfection at the port of embarkation can be produced by the owners of such baggage, or if, for any reason, the supervising officers shall deem further disinfection desirable, the baggage of immigrants and of all other steerage passengers must be disinfected by the officers of the Marine-Hospital Service prior to delivery.

Recent circumstances have made it imperatively necessary that the utmost care should be exerted in regard to the matters treated of herein.

O. L. SPAULDING, *Acting Secretary.*

[Circular.]

AMENDMENT TO QUARANTINE REGULATIONS.

TREASURY DEPARTMENT, OFFICE OF THE SECRETARY,
Washington, D. C., March 10, 1893.

Paragraph 18, Article XI, of the United States Quarantine Laws and Regulations, February 24, 1893, is hereby amended to read as follows:

"Steam vessels from a suspected or infected port where yellow fever prevails may be allowed to enter at the port of Baltimore and ports north of Baltimore, Md., after five days from date of departure from such ports without disinfection or detention unless in bad sanitary condition or with bad sanitary history. In either case they will be detained in quarantine five days after disinfection. This regulation to apply to the North Atlantic coast only."

J. G. CARLISLE, *Secretary.*

[Circular.]

ADDITION TO ARTICLE 3 OF THE QUARANTINE REGULATIONS OF FEBRUARY 24, 1893.

TREASURY DEPARTMENT, OFFICE OF THE SECRETARY,
Washington, D. C., March 13, 1893.

Inspection of passengers taken on board vessels touching at intermediate foreign ports, and subject to inspection under the provisions of Article 1, shall be made by the consular officer of the United States at said port in the manner prescribed for inspection at the port of departure. In case there shall be no consular officer at such port, then the inspection shall be made by the local health officer. Certificate of such inspection shall be made by said inspecting officer, and shall be attached to and become a part of the vessel's bill of health.

J. G. CARLISLE, *Secretary.*

[Circular.]

RELATING TO THE LABELING OF BAGGAGE AND THE ISSUE OF INSPECTION CARDS TO STEERAGE AND CABIN PASSENGERS.

TREASURY DEPARTMENT,
Washington, D. C., May 4, 1893.

To consular officers of the United States, medical officers of the United States serving in foreign ports, and others:

In accordance with the act of Congress approved February 15, 1893, it is hereby ordered that, until further notice, all baggage of steerage passengers destined for the United States shall be labeled. If the baggage has been inspected and passed the label shall be a *red* label, bearing the name of the port, the steamship on which the baggage is to be carried, the word *inspected* in large type, the date of inspection, and the seal or stamp of the consulate or of the medical officer of the United States serving in the office of the consul. All baggage that has been *disinfected* shall be pasted with a *yellow* label, upon which shall be printed the name of the port, the steamship upon which the baggage is to be carried, the word *disinfected* in large type, the date of disinfection, and the seal or stamp of the consulate or of the medical officer of the United States serving in the office of the consul. It is understood, and it will be so printed on the blank, that the label is not valid unless bearing the consular or medical officer's stamp or seal.

It is further ordered that each immigrant or steerage passenger shall be furnished with an inspection card (see form below), on which shall be inscribed or stamped the port of departure, name of the steamship, date of departure, name of immigrant or steerage passenger and last residence, and the seal or stamp of the United States consulate or the detailed medical officer. This card is to be retained by the immigrant until he reaches his point of destination in the United States, and is for the purpose of giving information to the maritime quarantine officers of the United States and the health officers of the several States through whose boundaries the immigrant must pass, and will greatly facilitate his transportation. The card will also contain blank spaces for stamping at the local quarantines of the United States and at the immigration stations. On the same card are blank spaces to be filled in by the ship's surgeon or agent, when it is desired by the steamship company to utilize this card for compliance with article 13 of the Immigration Regulations promulgated April 25, 1893; also a column indicating the inspection by the ship's surgeon of each immigrant during the voyage, as demanded by the local quarantine officer at the port of arrival.

On the reverse of the card is a certificate of vaccination, to be filled out when the immigrant has been vaccinated; also instructions, in several languages, to the immigrant to retain the card until he reaches his destination in the United States in order to avoid detention.

This card is to be issued by the consular or medical officer to each steerage passenger, to every member of a family as well as to the head thereof. If not used by the steamship in complying with article 13 of the Immigration Regulations, April 25, 1893, a separate card must be furnished by the vessel, in compliance with the law.

Cabin passengers from cholera-infected ports or places shall be given a special inspection card, on which shall be printed the port of departure, name of passenger, name of ship, date of departure, and an indicated space for the seal or stamp of the consular or medical officer.

The baggage of said cabin passengers shall be properly labeled.

J. G. CARLISLE, *Secretary.*

INSPECTION CARD.

[Immigrants and steerage passengers.]

Port of departure .... Date of departure,

Name of ship ....

Name of immigrant.............................. Last residence...

Inspected and passed at .... [Seal or stamp of consular or medical officer.]	Passed at quarantine, port of .... U. S. .... [Date.]	Passed by Immigration Bureau port of .... [Date.]

[The following to be filled in by ship's surgeon or agent prior to or after embarkation.]

Ship's list or manifest.......................... No. on ship's list or manifest ....

Berth No.	Steamship inspection.	1st day.	2	3	4	5	6	7	8	9	10	11	12	13	14	To be punched by ship's surgeon at daily inspection.
....																

[Reverse side.]

Keep this card to avoid detention at quarantine and on railroads in the United States.

Diese Karte muss aufbewahrt werden, um Aufenthalt an der Quarantäne, sowie auf den Eisenbahnen der Vereinigten Staaten zu vermeiden.

Cette carte doit être conservée pour éviter une détention à la Quarantaine, ainsi que sur les chemins de fer des Etats-Unis.

Deze kaart moet bewaard worden, ten einde oponthoud aan de Quarantijn, alsook op de ijzeren wegen der Vereenigde Staten te vermijden.

Conservate questo biglietto onde evitare detenzione alla Quarantina e sulle Ferrovie degli Stati Uniti.

Tento lístek musíte uschovati, nechcete-li ukarantény (zastavení ohlednê zjištêni zdraví) neb na dráze ve spojenych státech zdrźení bỳti.

Tuto kartoćku treba trímat' u sebe aby sa predeślo zderžovańu v karantene aj na železnici ve Spojenych Státoch.

VACCINATED.

[Signature or stamp.]

[Circular.]

INSPECTION OF IMMIGRANTS AND THEIR BAGGAGE.

TREASURY DEPARTMENT, OFFICE OF THE SECRETARY,
Washington, D. C., June 1, 1893.

To customs officers, quarantine officials, and immigrant inspectors:

Hereafter alien immigrants shall not be permitted to enter the United States at places on the Canadian and Mexican frontiers between the hours of 6 o'clock p. m. and 7 o'clock a. m. All alien immigrants and their baggage arriving at such places must be subjected to the inspection now prescribed by the immigration, quarantine, and customs laws of the United States so far as the same can be made applicable in the transit of persons and baggage by railroad and inland navigation.

Where such inspections have been made by the proper officers upon landing of immigrants at ports in the United States, and the route by which such immigrants in proceeding directly to destination passes through foreign territory from one point to another in the United States, such immigrants will not be subject to reinspection at the point of reentry into this country.

Immigrants who, with their baggage, were inspected by an officer of the United States Marine-Hospital Service upon landing at any port on the American Continent, will be exempt from further quarantine inspection unless there is reason to believe that disease has developed among such immigrants since such landing and inspection.

J. G. CARLISLE, *Secretary.*

[Circular.]

ADDITIONS AND AMENDMENTS TO QUARANTINE REGULATIONS, APPROVED FEBRUARY 24, 1893.

TREASURY DEPARTMENT, OFFICE OF THE SECRETARY,
Washington, D. C., June 6, 1893.

To the officers of the Treasury Department,
consular officers, and others concerned:

Vessels from foreign ports bound for the United States must procure from the United States consul or medical officer a certificate of visa of the bill of health at all intermediate ports or ports of call. The following form for visa of bill of health is hereby prescribed:

CONSULAR VISA OF BILL OF HEALTH.

Port of————.

Vessel ——— ——— bound from ——— ——— to ——— ———, U. S. A.

Sanitary condition of port: ————.

[State diseases prevailing at port and in surrounding country.]

Number of cases and the deaths from the following-named diseases during the past two weeks:

Diseases.	Number of cases.	Number of deaths.	Remarks. [Any condition affecting public health existing in the port to be stated here.]
Yellow fever			
Asiatic cholera or cholerine			
Plague			
Smallpox			
Typhus fever			

Sanitary condition of vessel, passengers, and crew (as reported by master or surgeon), including statement of deaths and sickness on board since departure ————

NUMBER AND SANITARY CONDITION OF PASSENGERS TAKEN ON AT THIS PORT, AND SANITARY CONDITION OF EFFECTS.

First cabin, No. ————. Sanitary condition, ————.
Second cabin, No.————. Do. ————.
Steerage, No. ————. Do. ————.

I certify that with reference to the passengers, effects, and cargo taken on at this port the vessel has complied with the rules and regulations made under the act of February 15, 1893.

Given under my hand and seal this —— day of ————, 1893.
[SEAL.]

——— ———,
United States Consul.

——— ———,
Surgeon, Marine Hospital Service.

The following form of certificate of disinfection of merchandise for the use of consular officers at interior ports, or at ports from which merchandise is shipped to another port to be there transshipped to the United States, is hereby prescribed:

FORM OF CERTIFICATE OF DISINFECTION OF MERCHANDISE.

No. ——.
CONSULATE OF THE UNITED STATES
at ——— ———.

I, ——— ———, of the United States, at ——— ———, hereby certify that the goods or merchandise mentioned and described in consular invoice No. ——, dated ——— ———, and consisting of —— bales, barrels, boxes, or parcels of ——— ———, marked ———, shipped by ——— ———, of ——— ——, to ——— ——, of ——— ———, on vessel ——— ———, have this day been disinfected in accordance with the Treasury Quarantine Regulations of February 24, 1893, under my personal supervision.

Fee received, $2.50.

——— ———.

Given under my hand and seal this —— day of ————, 189 .
[SEAL.]
——— ———.

RULE REGARDING NEW CUTTINGS.

New cuttings, meaning the waste from new cotton or linen cloth taken from factories, shall be considered as new merchandise, and come within the provisions of section 3, Article VII, of the Quarantine Regulations of February 24, 1893.

AMENDING SECTION IV, QUARANTINE LAWS AND REGULATIONS.

Article IV, U. S. Quarantine Laws and Regulations, dated February 24, 1893, is hereby amended after the eleventh line by substitution of the following:

The air space, ventilation, etc., must conform to the following extracts from the passenger act of 1882.

SEC. 3. That every such steamship or other vessel shall have adequate provision for affording light and air to the passenger decks and to the compartments and spaces occupied by such passengers, and with adequate means and appliances for ventilating the said compartments and spaces.

To compartments having sufficient space for fifty or more of such passengers at least two ventilators, each not less than twelve inches in diameter, shall be provided, one of which ventilators shall be inserted in the forward part of the compartment and the other in the afterpart thereof, and shall be so constructed as to ventilate the compartment; and additional ventilators shall be provided for each compartment, in the proportion of two ventilators for each additional fifty of such passengers carried or brought in the compartment.

All ventilators shall be carried at least six feet above the uppermost deck of the vessel, and shall be of the most approved form and construction. In any steamship the ventilating apparatus provided, or any method of ventilation adopted thereon, which has been approved by the proper emigration officers at the port or place from which said vessel was cleared, shall be deemed a compliance with the foregoing provisions.

* * * * * * *

In every vessel carrying or bringing such passengers there shall be at least two water-closets or privies, and an additional water-closet or privy for every one hundred male passengers on board, for the exclusive use of such male passengers, and an additional water-closet or privy for every fifty female passengers on board, for the exclusive use of the female passengers and young children on board. The aforesaid water-closets and privies shall be properly enclosed and located on each side of the vessel, and shall be separated from passengers' spaces by substantial and properly constructed partitions or bulkheads; and the water-closets and privies shall be kept and maintained in a serviceable and cleanly condition throughout the voyage.

J. G. CARLISLE, *Secretary.*

[Circular.]

QUARANTINE REGULATIONS.

TREASURY DEPARTMENT, OFFICE OF THE SECRETARY,
Washington, D. C., June 15, 1893.

To officers of the Treasury Department,
consular officers, and others whom it may concern:

You are hereby informed that the quarantine regulations of the Treasury Department approved by the Secretary of the Treasury February 24, 1893, and April 4, 1893, with subsequent circular additions and amendments, supersede all circular quarantine regulations previously issued; and all quarantine circulars issued prior to the dates of approval of said regulations are hereby revoked.

Collectors of customs, in enforcing the provisions of the quarantine laws and regulations denying entry to vessels, or detaining the same, are directed to report immediately by telegraph to the Supervising Surgeon-General of the Marine-Hospital Service the reasons therefor, and other necessary information.

While the quarantine rules can not be relaxed, no unnecessary detention or delay to vessels should be caused in enforcing the same, as it is the purpose of the Department to facilitate commerce in every proper way consistent with the public safety.

J. G. CARLISLE, *Secretary.*

CIRCULAR LETTER RELATING TO INSPECTION OF IMMIGRANTS ENTERING THE UNITED STATES BY WAY OF CANADA.

TREASURY DEPARTMENT,
OFFICE OF SUPERVISING SURGEON-GENERAL M. H. S.,
Washington, D. C., July 21, 1893.

To sanitary inspectors U. S. Marine-Hospital Service on duty on the Canadian border of the United States:

Until further orders you are directed to inspect all immigrants and their baggage coming into the United States via Canada.

Immigrants that can not produce certificates showing that they have passed the quarantine station at Grosse Isle or at Quebec should be detained for such period as may be necessary. The baggage of said immigrants must be disinfected prior to admission into the United States.

The certificate of the medical superintendent of the St. Lawrence quarantine service or of the medical officer of the Marine-Hospital Service who has been permitted to witness the disinfection at Quebec will be accepted by all inspectors on the Canadian border.

Any case of suspicious sickness discovered among the immigrants must be immediately isolated and a full report made by telegraph to this Bureau.

The disinfection of infected or suspicious baggage will be by one or more of the methods described in Article V, Quarantine Regulations of April 4, 1893, a copy of which is inclosed.

You will transmit each week a report of service performed, giving date, number of immigrants examined, number detained, number of pieces of baggage disinfected, and method employed, and any special facts of importance. Should there be no transactions within the week, you will transmit a report to that effect.

You will cooperate with State and local health authorities in the enforcement of their rules, provided they do not conflict with these instructions or previous instructions issued by the Treasury Department.

While thus cooperating it is not understood that you are subject to orders from any State or local authority. Specific orders must be received from or through the Marine-Hospital Bureau.

Respectfully, yours,

WALTER WYMAN,
Supervising Surgeon-General M. H. S.

TREASURY DEPARTMENT, *July 22, 1893.*

Approved:
J. G. CARLISLE, *Secretary.*

[Circular.]

ADDITIONS TO ARTICLE I OF THE REGULATIONS FOR MARITIME QUARANTINES OF THE UNITED STATES, PROMULGATED APRIL 4, 1893.

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
Washington, D. C., August 29, 1893.

To the officers of the Treasury Department, quarantine officers of the United States, and others concerned:

Pursuant to the act of Congress, approved February 15, 1893, entitled "An act granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service," and in execution of the responsibility with which this Department is charged by said act, the following regulations are hereby prescribed additional to Article I of the Regulations for the Maritime Quarantines of the United States, issued April 4, 1863:

1. BB. All vessels from domestic ports where yellow fever, cholera, typhus fever, or smallpox is prevailing.

5. In the performance of the duties imposed upon him by the act of February 15, 1893, the Supervising Surgeon-General of the Marine-Hospital Service shall, from time to time, personally or through a duly detailed officer of the Marine-Hospital Service, inspect the maritime quarantines of the United States, State and local, as well as national, for the purpose of ascertaining whether the quarantine regulations prescribed by the Secretary of the Treasury have been or are being complied with. The Supervising Surgeon-General, or the officer detailed by him as inspector, shall, at his discretion, visit any incoming vessel, or any vessel detained in quarantine, and all portions of the quarantine establishment, for the above-named purpose and with a view to certifying, if need be, that the regulations have been or are being enforced.

J. G. CARLISLE, *Secretary.*

[Circular.]

UNLABELED BAGGAGE OF STEERAGE PASSENGERS AND UNLABELED BAGGAGE OF SECOND-CABIN PASSENGERS FROM CHOLERA-INFECTED PORTS OR PLACES TO BE DISINFECTED AT THE QUARANTINE STATION FOR THE PORT OF ARRIVAL.

TREASURY DEPARTMENT,
Washington, D. C., September 19, 1893.

To quarantine officers of the United States, commissioners of immigration, collectors of customs, steamship agents, and others:

Department Circular No. 65, May 4, 1893, relating to the labeling of baggage and the issue of inspection cards to steerage and cabin passengers, provides that all baggage of steerage passengers destined for the United States shall be labeled at the port of departure, said label to bear the seal or stamp of the consulate or of the medical officer of the United States serving at the foreign port; also, that the baggage of cabin passengers from cholera-infected ports or places shall be likewise labeled. Information has been received that occasionally pieces of baggage arrive without being labeled as above required.

It is hereby directed that any piece of baggage, including hand baggage, belonging to a steerage passenger, not bearing a label as provided for in said circular, shall be disinfected by steam at the quarantine station for the port of arrival;

also, that the baggage of second-cabin passengers coming from cholera-infected ports or places, not bearing the label as provided for in said circular, shall be likewise disinfected by steam at the quarantine station for the port of arrival.

In view of the difficulty of accurately inspecting each piece of baggage while on board ship at the quarantine, commissioners of immigration and custom officers are hereby directed to scrutinize the baggage of immigrants when landed at the immigrant station, and should any piece of baggage, including hand baggage, be discovered to be without a label, as above required, they are directed to return the same to the quarantine of the port, where said baggage shall be disinfected by steam and properly labeled with a certificate to that effect before said baggage shall be allowed to pass into the United States.

CHARLES S. HAMLIN, *Acting Secretary.*

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